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ABSTRACT

This collection of articles describes an interdisciplinary cooperative effort in the context of PREP (Prekindergarten Education Program) intervention. The PREP began with the intention of developing a culturally competent education system for Hawaiian children and their families. An introductory chapter "Applied Research and Program Development: Orthogonal or Complimentary Behavior?" (Richard N. Roberts) and introductory remarks by Irving E. Sigel are followed by sections on: (1) the social, and (2) the educational contexts of development in the home. The 11 chapaters in these two sections are: "Growing Up Hawaiian: Autonomy and Solidarity in a Generational System of Interaction" (John J. D'Amato and Kristina Inn); "Kin and Calabash: The Social Networks of Preschool Part-Hawaiian Children" (Dale C. Farran, Jayanthi Mistry, Michelle Ai-Chang, and Hannah Herman); "Unpackaging Cultural Effects on Classroom Learning: Hawaiian Peer Assistance and Child-Generated Activity" (Thomas S. Weisner, Ronald Gallimore, and Cathie Jordan); "Development of the Home-Learning Environment Profile" (Robert W. Heath, Paula F. Levin, and Katherine A. Tibbetts); "Mother-Child Interactions and the Development of Verbal and Perceptual Skills in Part-Hawaiian Preschool Children" (Dale C. Farran and Thomas Darvill); "Quality and Quantity of Maternal-Child Interaction" (Richard N. Roberts and Margaret L. Barnes); "The Relationship Between Talking at Home and Test Taking at School: A Study of Hawaiian Preschool Children" (Mary Martini and Jayanthi Mistry); "The Social Context of Early Literacy in Hawaiian Homes" (Paula F. Levin, Mary E. Brenner, and J. Mahealani McClellan); "Preschool Activities as Occasions for Literate Discourse" (Jayanthi Mistry and Mary Martini); "The Comprehension Reading Lesson as a Setting for Language Apprenticeship" (Gisela E. Speidel); and "The Family, the School, and the Interface" (Richard N. Roberts). (AA)

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Coming Home to Preschool: The Sociocultural Context of Early Education

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Editor Richard N. Roberts

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ADVANCES IN APPLIED DEVELOPMENTAL PSYCHOLOGY

Coming Home to Preschool: The Sociocultural Context of Early Education

ADVANCES IN APPLIED DEVELOPMENTAL PSYCHOLOGY
VOLUME 7

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Educational Testing Service

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Introduction

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The volume of essays edited by Richard Roberts is an excellent and unique example of an applied developmental program.

The volume of essays edited by Richard Roberts is an excellent and unique example of an applied developmental program. Throughout the volume there is evidence of the psychological base for practice and for research decisions. Further, the volume shows how psychological perspectives, amplified by anthropological thinking, extend the understanding of the cultural and developmental complexities of the educational process. In addition, this volume reflects the variety of research methods used to get to the kinds of information needed to come to an in-depth understanding of how to best undertake the task of intervention. A multidisciplinary approach is of particular import since the project of early intervention eschewed a deficit model of development and set out instead "to create a proactive culturally affirming, education opportunity for young Hawaiian children and their families" (Chapter 12). To build on a culturally relevant base necessitates an identification of relevant cultural characteristics which would have to be considered in developing any of the intervention services undertaken. Inspection of the list of contributors reveals the diversity in background and interest among them. This is a clear-cut example of an interdisciplinary cooperative effort when undertaking such an intervention program. After all, the child and his or her family do constitute an integral whole made up of various interacting components. The topics in this volume address particular components in this complex whole.

In the first section, attention is paid to the social context of the child's development in the home. In this section the authors describe the social networks of the children, emphasizing the social system, both at home and in school. Thus, questions such as What does it mean to grow up Hawaiian? What kinds of peer relationships are developed? and How do children energe from familial direct control? are addressed.

These discussions are followed by more direct attention to the educational context of the home. In this section of the volume the authors attend to the particular kinds of interactions mothers, especially, have with their young children. The language mothers use with the children, along with the types of discourse interactions which occur between mothers and children, form the core of some of these chapters. Coupling these concerns with the development of literacy provides insights in the nature of familial experiences of the children in the development of conversation and language. The practical outcomes of assessing talking at home with test taking in school informs us of the role of the family in supporting the development of cognitive skills as assessed on tests. By examining the discourse patterns of children in the preschool classroom, the investigators have shown how the Hawaiian children, who speak a creole or pidgin, converse in the school setting while engaged in different activities. However, it becomes clear that while they are actively conversing, the language they use is not the language of the school room. Having earlier been informed of the demands of the classroom, the reader comes to be aware of the discrepancy between the demands of the classroom and the natural language of the children. It is interesting to note that the children are fluent and active conversationalists, but they are not using the kind of standard English required in school. Although the chapters deal with different topics, and are not all substantively related, they report investigations of significant aspects of the whole process of intervention. In reading the introduction and conclusion chapters by the Richard Roberts, it becomes readily apparent that there is some overarching coherence among the papers.

The conceptualization is implicit but evident by the choice of topics (see Table of Contents). The descriptions of the home as an educational context, the peer group, the extended family network, the language patterns in the home, demonstrate the types of information needed to develop an educational program which relates to and considers the cultural background of the children as they enter the educational environment. The concern with the home as a social and educational developmental context reveals how the researchers provide the data to build an educational milieu consistent with the cultural values of the children and their families. Such sensitivity and awareness should mitigate cultural conflict and enable parents to become constructive participants in the educational process. Further, such a body of knowledge shows, with some specificity, which familial factors need emphasis when the family is acknowledged as an adjunct in the educational enterprise. After all, the child comes to the preschool as an instantiation of his or her culture with the appropriate social, cognitive, and language skills derived from his or her culture. These particulars have to be considered in the intervention service planning if the program administrators are to be consistent with their proactive cultural perspective. It is clear from the chapters in this book that this is the case.

These studies provide two types of valuable perspectives: one, a demonstration of how an interdisciplinary team produced a body of research on a common problem, and two, the importance of articulating the details of the cultural context as critical determination of how intervention strategies and objectives for preschool programs can be developed.

It is self-evident from these reports that the different studies do converge on the common intervention theme, either directly by informing about specifics such as language differences between home and school, or by providing background information such as discussion of family and peer social relationships to be used to define program activities.

In a previous volume in this series, Roopnarine and Carter (1992) described the significance of cultures and their differences in socialization practices which contribute to a definition of the quality or parent–child relationships. Those essays were general descriptions highlighting significant cultural components relative to intellectual and social development. By contrast, the chapters in this volume accentuate those vital cultural components which form the foundation for the understanding of development. Such information is useful as general knowledge about a particular culture, that is, the Hawaiian in this case, as well as practical, as a guide in the development of intervention programs. Such knowledge influenced the development of intervention services from the infancy period to the preschool program. It also fostered some research to examine some specific related issues such as the study of maternal interactions, since the purpose of the research was to continue to add information and to provide a good empirical base so that program planning could be better served. The topics such as social contexts for early literacy in Hawaiian homes or the relationship of talking at home and test taking at school are good examples of the information educators in general can use, since they deal with material deemed relevant for school success.

The final chapter does reveal the construction of a conceptualization of the program. It can be viewed as both a beginning of a model of intervention or the summary of one already completed. Whichever it is, it is a clear statement of a point of view relevant to educational programs of virtually any type.

The message Roberts and his colleagues send loudly and clearly is that the understanding of the cultural context for intervention programs is crucial for creating programs which acknowledge and respect the cultural background of the program participants. Even though this volume gives the details of the Hawaiian scene, I believe that Roberts and his colleagues have described an excellent prototype of an interdisciplinary approach as prelude to appropriate and sensitive intervention as well as illustrating the symbiotic relationship between research and application.

REFERENCE

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Chapter 1

Applied Research and Program Development: Orthogonal or Complimentary Behavior?*

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Much of the research in this volume represents the developmental efforts of a group of researchers and applied practitioners who had the unique opportunity to work together in creating an integrated, culturally competent model educational program to assist Hawaiian families in the education of their young children. This chapter discusses the efforts of this group within the context of early education program development and the stresses it faced in combining research and program development into an integrated effort.

Setting the stage

During the 1970s, the Trustees of the Kamehameha Schools/Bishop Estate (KS/BE) were deeply concerned to find solutions to the problems faced by young Hawaiian children throughout the school system in Hawaii. The lack of parity between Hawaiian children and their counterparts in the same school programs continue to be very disturbing and part of a cycle of educational failure and social alienation. Ethnic Hawaiian children, as a whole, are one of the most educationally at-risk groups in the United States (Kamehameha Schools, 1983; Heath, 1985). Hawaiian children begin kindergarten with average Peabody Picture Vocabulary Scores at the 15 percentile nationally. As they move through the state educational system, this situation does not improve. Reading scores are typically from 10 to 20 percentile points below the national average on standardized measures of reading competence (Heath, 1985; Kamehameha Schools, 1983). This is in contrast with the picture of very competent young Hawaiian children who have a keen sense of individual responsibility, a strong understanding of their peer group, and a reduced reliance on adult supervision (Roberts, 1988; Werner, Bierman, & Freuch, 1971; Werner & Smith, 1977).

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* CDEE was the research institute for the Kamehameha Schools/Bishop Estate, which served as the funding source for much of the research reported in this volume. At various times other funding has been received through the U.S. Office of Human Services, U.S. Bureau of Maternal and Child Health, and the U.S. Office of Education.

Within the Hawaiian community, KS/BE was seen as an important educational institution and one which had high face validity in helping to solve the educational problems faced by children within the Department of Education Schools. These were some of the reasons that the Trustees proposed several contributions that KS/BE could make to finding solutions to these pervasive and enduring educational problems. They committed KS/BE to working toward educational parity for Hawaiian children with other ethnic groups across the State by the year 2000.

Founded through the trust established by the Will of Princess Pauhi Bishop, the Kamehameha Schools/Bishop Estate is a truly unique educational institution. Its mandate is to educate ethnically Hawaiian children. It has developed into a day school, a boarding school, an extensive continuing educational effort, and a community outreach program. Thus, it reaches Hawaiian children and families throughout the entire age span of life. For a time during the 1970s and 1980s, it also housed its own research institute known as the Center for Development of Early Education.

During this same time, Kamehameha Schools began early intervention programs as part of its community outreach effort to effect educational readiness of Hawaiian children prior to entry into the formal elementary school system operated by the Hawaii Department of Education. One of the key elements in reaching the stated goal of educational parity by the year 2000 was to provide enriched educational opportunities for children and families from the prenatal period through age 5.

The research action team assembled to begin to develop the early education component was composed of representatives from several disciplines: psychology, anthropology, child development, linguistics, public health, early childhood education, and social work. At one level, the task before the group could be simply stated; and at another level, it was quite complex. This group's task was to create early education programs for Hawaiian families. The target age for children in the programs was to be prenatal-to-5. When this effort was first conceptualized in the late 1970s, belief in the inoculation effect of early intervention was still strong. The working hypothesis that acted as the charge to the research action team was that early intervention programs for Hawaiian preschool children would increase school readiness and help them begin formal schooling in the kindergarten year with skills at parity with their non-Hawaiian counterparts. It was anticipated that outcomes would be measured both in the short term by developmental gains for the children and in the long term by academic gains as they reached school age.

Though anyone who has worked in a multidisciplinary–applied research setting can surely understand, the effort was not without its problems, both at the institutional and the theoretical level. The result, however, at the time of this writing, is an educational program that is now in place in over 11 sites serving Hawaiian families with children birth to kindergarten age. The research team contributing to this volume represent one portion of the program development staff. Researchers, together with teachers, home visitors, administrators, and program curriculum planners helped shape the programs that became the Prekindergarten Educational Program, or PREP.

The original intent of the project when it began in 1983 was to create a model of early intervention services for Hawaiian children prenatal to age 5 that would assist them in preparation for entry into kindergarten. PREP was the sister program to the Kamehameha Elementary Education Program (KEEP). The history, research, and outcomes of the KEEP program have been reported separately (e.g., Tharp et al., 1984; Tharp & Gallimore, 1988).

Much of the original research that helped to formulate the KEEP model served as the foundation upon which the PREP program was built. In fact, the team of researchers represented in this volume were integrated into research teams working jointly on the issues of elementary education programs and those of younger Hawaiian children and their families. The mandate of this research center was to create and implement empirically sound alternative educational models for ethnic Hawaiian children both within the Hawaii Department of Education and for families with prekindergarten children.

The approach taken in program development was best understood by the title of one of the earlier works describing some of the ethnographic findings within the KEEP program, "Coming Home to School" (Tharp & Jordan, 1979; Jordan, Tharp, & Baird-Vogt, 1982). Educational difficulties of Hawaiian children were viewed as a cultural clash between the social interaction patterns and learning environments within Hawaiian families and those same patterns within a traditional Western school classroom. The locus of the problem was not so much with the deficits of Hawaiian children as they entered the educational system but with the inability of the educational system to build on the strengths of the Hawaiian child and to use those strengths in the classroom environment.

When the PREP program was born, the KEEP project had already enjoyed some success in creating educational environments for Hawaiian children which allowed them to score at parity in reading achievement with other ethnic groups in Hawaii in the early elementary school years. These results were replicated both in a laboratory school setting and in regular Department of Education elementary school classrooms.

This model for educational reform has been explicated in considerable detail both by researchers from the KEEP project (cf. Tharp et al., 1984) and by others concerned with educational failure of minorities within standard Western settings (cf. Simons, 1979; Ogbu, 1983). Other reasons for minority children's academic difficulty, particularly with respect to literacy have been presented including language development delays or inadequate language (Feagans & Farran, 1982), or perhaps differences in language skills rather than delays (Simons, 1979). The merits of these various positions are not debated here. Rather, it is important to remember that the research foundation of the KEEP programs and the beginning point of the PREP program were one of several alternative explanations for the academic problems of minorities in this country.

Though both the KEEP and PREP programs had many commonalities in their efforts, there were also several major differences. The task of the PREP program was different from the beginning than that of KEEP in a fundamental way: KEEP had a target. Hawaiian children in the DOE elementary schools in Hawaii were not learning to read and consistently scored well below other ethnic groups in the state on all standard measures of school success (Kamehameha Schools, 1983). The task before KEEP researchers was to determine what it would take in a classroom setting to assist Hawaiian children to learn to read at parity with their peers. The educational system was broken, and it was the task of the researchers and program developers to discover how to fix it. In the process of doing this, considerable information was learned with respect to social patterns of Hawaiian families, language skills of Hawaiian children in elementary school, patterns of childrearing, and community-social organization.

In contrast to KEEP, the target for PREP was less clear. There was no identifiable educational program in existence for Hawaiian preschool children outside the home that needed fixing in the way that the elementary education system needed to be fixed. It was clear, however, that Hawaiian children from birth were disproportionately represented in almost all of the health, educational, and social services categories associated with school failure. Existing health, educational, and social service programs did not fill this need or assist Hawaiian families in a culturally competent way to provide those experiences which would prepare children for learning in a school context (Roberts, 1988, 1990; Kamehameha Schools, 1983).

The challenge before the PREP researchers was somewhat of a conundrum. The KEEP program had demonstrated that Hawaiian children could reach parity with their peers in DOE classrooms if the educational environment in the classroom was conducive to learning. Yet it was becoming clear from another body of literature that early intervention programs could be effective in preparing at-risk children for the school experience and might preclude some educational problems (e.g., Lazar, Darlington, Murray, Royce, & Snipper, 1982; Love, Nauta, Coelen, Hewlett, & Ruopp, 1976).

The juxtaposition of these two potentially contradictory findings was the context in which the PREP program began its work. Did it make sense to help create early intervention programs which targeted a particular ethnic group as at-risk? How could such programs be developed that did not result in the perception that the locus of the problem was inadequate family environments rather than inadequate social, educational, health, and economic supports for families? What supports were available that could meet family needs within the context of the cultural patterns of interaction, childrearing, problem solving, and community organization inherent in the natal culture?

Coupled with this rather thorny intellectual problem was the need to begin some educational programs for families primarily because the larger institution (Kamehameha Schools/Bishop Estate) mandated such an effort. KS/BE was primarily an educational institution, and its research arm existed to both inform program development and evaluate the effects of educational programs. Program development and service to children and families led the research effort. In this light, the research reported in this volume was representative of the ongoing questions asked as programs simultaneously were being developed. Program development also provided the activity settings in which ongoing research could be conducted.

The Settings

Some of the principles that guided program development included the following:

1. The program's primary focus had to be educational. It had to recognize the educational, health, and social service needs of families and to address them with families from an educational perspective.

2. The program should be proactive. Rather than identifying a particular subset of the ethnic Hawaiian population as being particularly at-risk for educational failure, communities became the targets for service systems. A priority listing of 11 predominately Hawaiian communities was developed through a needs assessment (Heath & Plett, 1986). The criteria for community inclusion in this listing included number of Hawaiian families, percentage of families in poverty, and kindergarten entry-screening scores of all children within the elementary school catchment areas in each community. Within the resources available then, programs were to be offered to all Hawaiian families who chose to participate in each target community. Thus, the programs were not seen as ones developed for teenage mothers, poverty children, or at-risk for a particular clinical or medical condition. Rather, the invitation was made to families who were interested in the best educational opportunities for their children.

3. The program had to be acceptable to Hawaiian community leaders and to have strong face validity with respect to their concerns about new programs coming into the community.

4. The program had to provide a natural progression of educational experiences for families beginning with the prenatal period and continuing until the child entered kindergarten. Given the mobility of Hawaiian families, the program had to be designed in such a way that parents could elect to participate in the entire program or could be involved in components and still find it meaningful for themselves and their child.

5. The program was to mirror the gradually expanding social networks of young children. First, the program was to focus on the parents and the extended family members in helping them to ensure a healthy, full-term infant. This was followed by an emphasis on providing educational opportunities for the child and the family within an increasing circle of social contacts as the child became introduced to the community. These experiences were to become more school-like as the child neared the age in which formal schooling would take place. Program support would begin with the parents (primary caretaker). They would gradually shift to the parents and the child together. Finally, they would focus on the child separately in a classroom environment and assist the parents in finding culturally appropriate ways to support the child's efforts within the classroom setting.

The prenatal-to-age-5 set of programs that met these needs became the setting for the PREP program. Some existing programs were connected to new applications of efforts which had been tried in other settings with other populations. Families could enter the program at any of three points. The home-visiting program was designed for parents expecting a child through the first 2 years of life. *Kupulani*, or growing heavenward, the home-visiting program, first emphasized issues of health of the mother and the developing child. After the birth, a relatively standardized curriculum was followed with some individual family variation. The home-visiting component is described in a series of technical reports (Hosaka, 1983; Peet, 1986) and a recently published article describing the home-visiting program (Roberts, 1988).

Between the ages of 2 and 3, children could attend the traveling preschool, which was exactly what its name implied. The traveling preschool consisted of a van loaded with activities that pulled up to a local park, church, beach, or community center two mornings a week with a teacher and a hope that it didn't rain that day. Families with children in the target communities were invited to attend. Children of all ages actually came with their caretakers, though the majority of the educational activities within the learning centers were intended to stimulate language with children between the ages of 2 and 3. Typically, the parents, extended family members, or the babysitter would bring the children. Parents and the children helped the teacher set up the learning centers on grass mats around the confined area. The 2-hour period was filled with opportunities for the children to interact with one or several of the five to six learning centers set up each day. There was time for parent visits while the children had snacks. Usually some form of circle time, including songs and dance was held as well. Visits from the bookmobile, librarian, public health nurse, and so on, were common. Informal parent-support networks formed. The emphasis on the materials used in the settings was one of inexpensive toys and incidental learning. There was less emphasis on making parents teachers of their children than on providing fun, easy, culturally competent experiences for families around a semi-school-like setting. It was much less structured than a school but more structured than just going to visit friends.

At four, children were eligible for the formal 4-year-old preschool. This classroom environment was without the parent in attendance and, in many ways, mirrored a well-supplied and enriched preschool environment. There was a heavy emphasis on language skills, though the articulation of what that meant gradually evolved over the active research years of the project. Initially, the preschools were established, and the teachers were hired to begin a relatively standard preschool curriculum. Over time, the preschool classrooms began to emphasize language and preliteracy experiences with instruction and interaction that drew on the strengths of Hawaiian children. Several models of parent and extended family involvement were tried, with varying degrees of success.

As this entire programmatic effort was being created, the research and the evaluation efforts were also being developed. The tension between program development and research to inform that developmental process was a problem not unique to this setting. The problems in creating an interface between research and educational practice extend well beyond this project to the larger educational system in this country. Others, such as Keough (1990), Tharp and Gallimore (1988), and Cuban (1990), have most recently pointed out the difficulties in wedding these two enterprises. Some believe they must be two sides of the same coin, while others believe them to be two almost orthogonal enterprises.

In the present example, the contingencies operating on program staff and those operating on researchers were different. It became necessary to structure the environments and reorganize the contingencies of both such that interactions could take place that allowed each to inform the other.

The dramatic need for strong support of this applied research-action endeavor at the highest levels within an organization is exemplified with this project. During the formative years of this effort, applied action research was supported very generously. As priorities changed and positive results were apparent in the programs, support for the research arm of KS/BE dwindled to the extent that most of the authors of chapters in this volume are now employed in active research careers elsewhere. This may sound like a bit of a paradox. Indeed, it is not. Within educational reform, research is still frequently seen as the fixer or evaluator but not as part of the iterative process, which must be ongoing if we are to make serious attempts at understanding and providing long-term solutions to complex and enduring social problems. Short-term solutions rarely work except in the short term.

Program developers and education decision makers operate under a different set of priorities than researchers. Their task is to create a program now for the perceived need. In developing the PREP program, we addressed the tension between long- and short-term solutions and were partially successful in finding workable solutions. The problems in finding a long-term solution lie partially in the reality that policy, practice, and research are separate endeavors and governed by different contingencies as well as constraints (Roberts, Wasik, Casto, & Ramey, 1991). To require them to work in a harmonious fashion is indeed a herculean effort.

The research reported here involves different research methodologies and different settings. The first three chapters describe important components of the home and extended family networks that influence the socialization of young Hawaiian children. In so doing, these studies lay the groundwork for a better understanding of the influence of culture on development. Culture is seen as a powerful shaper of behavior. Still, it leaves room for considerable heterogeneity within groups.

D'Amato and Inn begin by presenting the results of several years of field ethnographic research with respect to what it means to grow up in a rural Hawaiian household. The Hawaiian social world, involving neighbors, friends, kin, and household members, is described. The intergenerational nature of the Hawaiian social system serves as an organizing element within Hawaiian families. Adults, teenagers, and children operate on different levels within the same household; and children learn to work cooperatively within group settings. Identities within Hawaiian social structures are, at least in part, a function of standing within the peer level at which one finds oneself. The authors relate these structures to the current social standing of Hawaiians within the larger social system.

Farran, Mistry, Ai-Chang, and Herman present an unusual methodology to examine the social networks of young Hawaiian children. The extended family-kinship network is frequently discussed as a major factor in the use of diffuse caretaking and responsibility for children. In this study, the range of networks is explored, as well as the variety of tasks assumed by various members within the network for young children.

Weisner, Gallimore, and Jordan investigate the assumption that differential minority achievement can be largely explained by examining the discontinuities of natal and school cultures. They use the example of sibling caretaking as a cultural characteristic, and provide a systematic analysis of its expression in Hawaiian homes and how it could be translated into an effective classroom organizational component to assist in instruction. They suggest that culture is best viewed as a force that predicts which activity settings are available for learning to occur. The implications of sibling caretaking and child-assisted learning are explored within the context of activity setting in the home with extensions to the classroom situation

The next set of studies examines variables within Hawaiian homes which foster educationally relevant skills within young children. Heath, Levin, and Tibbetts describe the development of an instrument that assesses the types and forms of educational experiences of young Hawaiian children in the home. These variables are then related to academic success. The work suggests that rigorous assessment of home environments of young children can be as predictive of educational achievement as intelligence tests. It identifies those features of individual family environments that strongly support the development of some cognitive skills while contributing less strongly to the development of others.

Linkages between parental behavior and children's cognitive skills in a more laboratory-like setting than those reported earlier are presented next. Farran and Darvill examine the variability in mother–child interaction patterns and assess their relationship to perceptual and language competencies demonstrated by their children. Roberts and Barnes examine the verbal and behavioral interactions of mothers with their 4-year-old children in two social-economic groups and relate the maternal behaviors to child-cognitive skills. Parental verbal strategies were the best predictors of children's cognitive skills over other possibilities such as SES, parental involvement, or maternal education.

Martini and Mistry compare the language experiences in home settings of two groups of Hawaiian children who performed well and poorly on standardized language measures. Language at home is studied in four activity settings. Language skills associated with school success include those forms of self expression which include a larger vocabulary, the ability to grammatical markers, and verbal-reasoning skills. Well-prepared children had opportunities to employ these skills in culturally accepted modes of interactions, while less prepared children did not. Language development within the particular cultural parameters of Hawaiian families is shown to be a function of interactions between children, siblings, and parents. Other contexts of familial interaction need not exclude the options that language-enriching experiences can be available to young children.

Levin, Brenner, and McClellan describe the literacy environment of young Hawaiian children and the range of preliteracy experiences available to them. In low-income Hawaiian households, young children do have preliteracy experiences, and the homes are filled with reading material. Both activity settings and cultural practices play an important role in guiding the development of literacy. Many households lack routines that facilitate early literacy activities, yet implicit cultural models are at work helping to organize the literacy learning of young children. The particular ways children are exposed to early literacy experiences are discussed.

The final set of chapters brings these issues into the classroom in a more direct way. First, Mistry and Martini examine critical features of language-learning activities in a preschool classroom. Teachers and curriculum developers who assume the needs for strong language skills in learning to read provide certain activities in the preschool classroom to encourage those skills. This study examines those settings in a typical preschool classroom to empirically validate which child-language behaviors are, in fact, present and reinforced by the setting.

Speidel provides a microanalysis of a comprehension lesson in a kindergarten classroom to show how language skills can be taught within this setting. School language and home language are distinguished. Children must learn school language in order to better learn to read a book written in a language of the school. Here Hawaiian creole is distinguished from standard English as fulfilling separate roles within the children's lives. The methods for creating language interactions within the kindergarten classroom which foster discussion and problem solving while honoring the social interactional styles of Hawaiian families are discussed.

Finally, Roberts summarizes the data and issues reflected in the above chapters and presents a neo-Vygotskian analysis of learning within Hawaiian homes and their interface with effective preschool education. Lessons learned from this experience in applied-action research are discussed with implications for how we might do it better next time.

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Part I

The Social Context of Development at Home

Chapter 2

Growing Up Hawaiian: Autonomy and Solidarity in a Generational System of Interaction

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HISTORICAL AND DEMOGRAPHIC BACKGROUND

> When the missionary came, they had the Bible and we had the land. Now we got the Bible and they got the land.
>
> —A Hawaiian Christian in her 40s

It would not seem possible to speak of a Hawaiian social world, so profound are the changes that have affected the Hawaiian Islands. The West arrived in the Hawaiian Islands in 1776 in the form of Captain Cook and his sailors; a century-long process of depopulation ensued. From an estimated total of 250,000 people in 1776, Hawaiian numbers fell to 51,531 by 1872 (Nordyke, 1977); and over the course of this century, indigenous Hawaiian religious, economic, and political institutions were destroyed. These were years of sociostructural transition in Hawaii. For the Hawaiians, they seem to have been ones of demoralization; so much of their society and population was withering away (Daws, 1974).

In 1876, the Hawaiian kingdom and the United States signed a trade reciprocity treaty which lifted tariffs on Hawaiian agricultural products; there ensued an immediate boom in the nascent sugar industry and a century-long process of rapid population expansion, primarily through immigration.

Attracted by the expanding sugar industry, a Caucasian middle class of administrators and scientists arrived in Hawaii from the United States mainland and from northern European countries. Hundreds of thousands of workers were recruited from Portugal, China, Japan, and eventually the Philippines (Fuchs, 1961). Sugar production vaulted from about 26 million pounds in 1876 to 216 million in 1886, 444 million in 1896, and 747 million in 1906, a bad year for sugar (Thrum, 1912). Immigration and economic growth, in turn, set in motion processes of change that have shaped and continue to affect the modern characteristics of Hawaii and the Hawaiians.

The first of these processes was a demographic one. Owing to the huge influx of mostly male workers that accompanied the growth of the plantations, the Hawaiian proportion of Hawaii's total population plummeted, and Hawaiian women began to mate increasingly with non-Hawaiian men. In 1872, the 49,044 "pure" Hawaiians and 2,487 part-Hawaiians together accounted for 90.6% of Hawaii's total population. In 1884, eight years after the Reciprocity Treaty, they accounted for only 50.6% of the population. By 1930, part-Hawaiians had overtaken "pure" Hawaiians in numbers, and together they accounted for only 13.8% of a population that had grown to over 368,000 people (Nordyke, 1977). The plantation economy declined after the 1940s, but immigration and interracial marriage have not. During the 1970s, net migration accounted for about four-tenths of the state's population growth (State of Hawaii, 1982); and rates of marriage to non-Hawaiians for both men and women of Hawaiian ancestry were at about the 50% level (Wittermans, 1981).

A second process of change was a political one. Owing to the rise of a Caucasian-controlled economy on islands proximate to the United States, Hawaii soon began to lose its autonomy as a nation. In 1893, the Hawaiian monarch, Queen Lili'uokalani, was overthrown, and Hawaii was taken over by an oligarchy of plantation-owning families. The oligarchy sought the annexation of Hawaii by the United States and in 1898 achieved this aim. Both before and after annexation, the Caucasian elite appeared to offer the Hawaiians a share in political power and in the prosperity of the plantations in return for their political support. However, the economic conditions of the Hawaiians continued to slide under the oligarchy. By and large, Hawaiians chose to make their livelihoods outside the plantation system and its harsh conditions; and Hawaiians held no direct political power (Fuchs, 1961).

The plantation elite ruled Hawaii throughout the 1898 to 1959 period during which Hawaii was a U.S. territory. The granting of statehood to Hawaii in 1959, however, coincided with the emergence of a middle class composed mainly of descendants of non-White immigrants. These successful, well-educated children of plantation workers took control from the Caucasian elite. Since 1959, Hawaii has been controlled by multiracial coalitions of politicians representing Hawaii's multiracial middle classes (Fuchs, 1961). As Hawaiians stood outside the economy of the plantation era, so do they remain largely at the margins of today's sociopolitical system.

A third process of change accompanying the rise of the plantations was a cultural one. The efforts of the Hawaiians, the immigrants, and particularly their descendants to adjust to one another and to American society led to a process of cultural pidginization and creolization. This process was channeled by

Hawaii's social structure, and one of its driving forces was children's interests of not appearing strange and different from peers (cf. Glick, 1980; Okamura, 1982). The outcomes of this process were shared life experiences, shared linguistic and other customs, some sharing of racial ancestry, and consequently, a sense of shared identity among Hawaii's new generations of non-White and "mixed" natives. Recently, this sense of shared identity has been given concrete expression in the ideas of "local people" and "local culture." The creation of these symbols of solidarity, however, also has to do with modern circumstances, which have included a continuing flow of immigrants to Hawaii and the politics of building multiethnic coalitions of voters. In its most general sense, "local people" evokes the idea of a group of people whose origins are diverse but who are of the state by reason of birth and who are more like one another culturally and in terms of life experiences than they are like their ancestors, the modern citizens of their ancestral homes, and the people of the United States mainland.

THE COMPOSITION OF HAWAIIAN SOCIAL NETWORKS

Against this demographic and historical background, a Hawaiian social world has evolved. It environs Hawaiian households in the form of social networks which are distinctively Hawaiian in their membership and in at least some features of their organization of interaction. Howard (1974) and Gallimore, Boggs, and Jordan (1974) found such networks in a Hawaiian homestead community. Linnekin (1983) found them in a remote taro-growing community. Not as widely known (cf. Linnekin, 1983) is the fact that such networks may also be found in the middle- to low-income multiethnic communities in which most Hawaiians live. There, too, Hawaiian households maintain ethnic social networks.

The data on which this chapter is based come from three sources. The first is a set of 41 interviews with low-income parents, usually mothers, of Hawaiian primary-school-aged children. The interviews occurred in both urban and rural settings and averaged about 1¾ hours in duration. The second source of data are field notes from a 1-year case study of the social networks of a Hawaiian household located in a low-income, ethnically mixed, suburban neighborhood. The heads of this household were a middle-aged, part-Hawaiian couple named Henry and Lovey. One of the authors was a member of their household for 4 months and continued day-to-day association with the household for a year beyond the study period. The last source of data is a set of 60 hours of videotape and audiotape records of interactional sequences involving preschool-aged children. Some of these records are used to exemplify cultural generalizations.

As shown by both interview and case study data on these communities, most Hawaiian households maintain four social networks: (a) a network of neighbors;

(b) a friendship network of peers; (c) a kinship network; and (d) the network represented by the household itself. It is within the Hawaiians' kinship, friendship, and household networks that one finds the Hawaiian social world (D'Amato, 1986).

Neighbors and Friends

The size and activity of neighborhood networks vary widely, owing mostly to architectural, zoning, and other spatial influences on the accessibility of people to face-to-face interaction. Some sort of neighborhood network, however, is usually found for Hawaiian households, especially ones which include elementary-school-aged children. In multiethnic communities, these networks share the characteristic of having an ethnically diverse membership.

The household of Henry and Lovey maintained a neighborhood network of 11 contiguous households located around their own. Thirty-seven of the individuals who lived in these 11 households participated in the network. In addition, 27 individuals who were frequent overnight or longer visitors to the 11 households also regularly participated in the network. Among these 64 people, there were Hawaiians, but also Caucasians, Filipinos, Samoans, Chinese, and a varied "mixture"; some of these people were natives of the state, others long-time residents, yet others only very recent immigrants. Some were even tourists.

The ethnic picture in friendship networks is quite different from this. Friendship networks are composed of peers known from work places, schools, churches, previous residence, and through kin, other friends, and social events like *luaus*, which are feasts celebrating events in the life cycle. These networks also range widely in their size and activity, varying most closely with the age of household members. Friendship networks, however, share the characteristic of having a preponderantly Hawaiian membership. Henry and Lovey were visited by 39 adult friends during the course of the 1-year study period. Twenty-six of these adults made three or more visits; 14 made six or more visits. With four exceptions, the visitors were part-Hawaiian in racial ancestry. The point extends to the younger members of the household as well. The more than three dozen visitors to the young adult children of Henry and Lovey and to their two elementary-school-aged boys were all local and almost all Hawaiian.

Furthermore, there is typically a difference in intimacy between Hawaiians' relationships with friends and their relationships with neighbors. With neighbors, Hawaiians share the interest of having a peaceful and pleasant residential environment. Consciously downplaying ethnic and other differences, Hawaiians and their neighbors extend the signs of friendship to one another, interpreting the idea of friendship within the context of their own values and their ideas of others' values. For Hawaiians in middle- to low-income neighborhoods, this means at least passing the time in talk and other diversions with neighbors and can easily extend to a wide number of exchange activities like sharing child care, watching one another's homes, and making loans of food and food stamps when money is low. Despite the range of activities that may link households, Hawaiians and their neighbors also work to keep neighborhood relationships from becoming too close, too intense, and too fraught with the possibility of disruption. Neighbors usually come and go; while the relationship is there, the object is to keep it untroubled and, if possible, of mutual benefit.

With friends, on the other hand, Hawaiians share personal histories often going back years, even decades; and they know their friends within the context of their friends' kinship networks. Friends also share a racial and political history and an appreciation of "the resentment," as one Hawaiian woman put it, that "is buried deep inside." With neighbors, Hawaiians laugh and "talk story," but with friends they also cry and fight. Neighbors usually provide more in the way of routine help than do friends, but it is to friends more than to neighbors that Hawaiians turn in times of crisis.

Kin and the Household

Kinship networks are normally those most involved in the life of Hawaiian households, kin usually being the most frequent and numerous visitors. Of the 41 parents surveyed in interviews, all but 6 reported living within three miles of kin; these are usually relatives of the female head of household.

The household of Henry and Lovey was also located within three miles of kin. During the 1-year study period, 55 kinsmen visited the home of Henry and Lovey. Nine were children of Henry and Lovey from previous relationships, nine were mates or affines of their children, and seven were children's children. Of the remaining 30 kinsmen, 28 were kin of Lovey. Except for six mates and affines, these people were part-Hawaiians.

The customary rights of kin are rather different from those of friends and neighbors. In Hawaiian households, the yard and carport, where these are present, are treated as extensions of the home and are the proper locale for hosting most friends and neighbors. The interior of the house is treated as the special domain of "the family." Since kin are by definition part of "the family," they have readier rights of access to this area of the household and also special rights of visitation. The visits of friends are typically unannounced. Friends will visit during a time when household members are likely to be free and well disposed towards socializing. Kin, too, make unannounced visits. In their case, however, the visits may be for overnight periods that can well lengthen into stays of days or weeks.

The fourth network of Hawaiian households, that of the household itself, includes both permanent and temporary members, the distinction between the two often an ambiguous one. A nuclear family is usually the basis of a household, but households may include as permanent members other kin and also unrelated individuals who are treated as though they are kin. Indeed, neighborhood, friendship, and kinship networks may all contribute to the permanent membership of a household. The household of Henry and Lovey, for example, included their two elementary-school-age sons, Lovey's young adult son from a previous relationship, and Uncle Bibi. Uncle Bibi was a single Filipino man, somewhat older than Henry and Lovey, and not related to either of them. He was a casualty of the imbalanced sex ratio of the plantation era and had lived with Henry and Lovey for over 10 years. An "Uncle Bibi" is frequently found in older Hawaiian households, taken in, his friends say, because they feel sorry that he has no family of his own. Uncle Bibi had begun his association with Henry and Lovey as a neighbor.

Temporary members of households are usually kin but again may be friends and neighbors treated as though they are kin. Most of the nine young adult children Henry and Lovey had from previous relationships visited and stayed with them during the study period. These people were almost always accompanied by children, if they had children, and sometimes by mates. The young adult children of Henry and Lovey, moreover, had friends of similar age. Many of these people were in the process of establishing families of their own and were encountering some difficulties in relationships with parents and other kin. Some of these young adults became temporary visitors and were treated terminologically like sons and daughters or nephews and nieces. Lovey had numerous off-island relatives, many of whom also visited, sometimes just for the sake of diversion, sometimes for medical or other reasons. Even some neighbors who lost their lease were put up for a time by Henry and Lovey. Altogether, 44 individuals were overnight or longer visitors during the 1-year study period. With few exceptions, these people were part-Hawaiian in ancestry. Both the average and median length of stay of the visitors was in excess of 3 weeks. For more than 3 weeks out of every month, then, the household of Henry and Lovey was swelled by the addition of three to four visitors. Lovey once remarked, "If you help people, you get blessings." Even by Hawaiian standards, Lovey was well blessed.

Dispersed Ethnic Villages

For all Hawaiians, the frameworks of the work place, the store, the school, and especially the neighborhood street constitute one area of everyday life. These frameworks represent a public world, one that is shared by Hawaiians with diverse others. Most, if not all Hawaiians, also participate in friendship, kinship, and household networks. For many Hawaiians, these networks represent a private, Hawaiian world, a kind of dispersed but very active ethnic village, open mainly to kin, other ethnic insiders, and individuals who have married into it or become attached to it through friendships. It is not possible to say how many people participate in Hawaiian social networks; there is no count. Most families headed by part-Hawaiian couples or by part-Hawaiian parents without partners probably do. Many families headed by part-Hawaiian women and non-Hawaiian men and some families headed by part-Hawaiian men and non-Hawaiian women also do. In any case, when Hawaiians who do participate in this world raise children, they have in mind not only the public institutions of Hawaiian Islands' society but Hawaiian social networks as well. They try to teach children to play appropriate roles within this world, and the ethnic village itself imposes behavioral requirements upon children. In largely tacit ways, it requires children to fit in, to behave in ways that accord with its organization.

THE GENERATIONAL STRUCTURE OF THE HAWAIIAN SOCIAL WORLD

The inner structure of this Hawaiian world is probably best construed as a generational one. Members of different generations usually prefer to operate relatively autonomously of one another in interaction, adults associating with adults, teenagers with teenagers, children with children. Howard (1974) and Gallimore et al. (1974) use the term *peer orientation* to capture this preference.

Another feature of the system is a strong notion of authority between older and younger generations. This notion of authority tends to maintain the separation of interactional spheres and has been referred to as benign authoritarianism (Howard, 1974; Gallimore et al., 1974).

"Their Own Corner"

A generational skeleton of interaction may be witnessed in a variety of ways in Hawaiian social networks. No network manifests all of these ways of organizing interaction generationally, but all of them do show some of them. Peer orientation is probably most conspicuous in large public or formal gatherings, for it is here that peers are most available for interaction and that people are under most pressure to honor Hawaiian norms. At movie theaters frequented by Hawaiians, for example, people tend not to sit in nuclear family arrangements. Instead, children are likely to sit with peers in the front half of the theater while adults and young adults sit with their peers in the back half along with infants and young toddlers.

Hawaiian churches are often based in homes rather than sacred structures reserved for worship; the core of such churches consists in members of one kinship network. These congregations may have a two- or three-tier interactional organization. Children of early teenage and younger age attend Sunday school, usually run by a preadult relative, while adults hold their own separate services.

At *luaus*, adult kins and friends sit together on the long rows of picnic tables that are the characteristic furniture of these outdoor feasts. Just beyond the tables, children typically gather to play in near-age groupings. They are not left at home or required to stay within parents' gaze. Particularly at luaus held within the kin group, eating may be organized generationally, the youngest being fed first. This pattern may extend to meals within the household itself. Generational eating arrangements are certainly more an ideal than an everyday reality, but it is important to note the ingredients of the ideal and of the other situations mentioned. These ingredients consist of two affirmations: (a) one of the unity of a group of kin and friends as a whole, and (b) one of the unity of peers within the group. Hawaiian social occasions celebrate Hawaiian collectivities, but within these occasions, different generational strata tend to operate as separate spheres.

An example of the generational organization of Hawaiian interaction is the practice of not giving children ready access to adult conversations. Parents may talk about their children to visiting adults, usually as a means of giving indirect praise. But even when being talked about and present to hear the talk, children are not invited into the conversation and do not participate directly in such interactions. As a rule, the attention of visitors is not claimed by children nor focused upon them by parents. Face-to-face contact with children is not sustained, and they neither supply nor are requested to supply topics for talk. The rule is that peers should interact with peers—adults with adults, children with children. This attitude is expressed in the following responses made by parents to the question of whether they believed it proper for children to participate in adults' conversations:

> No. Nope. Because to me it's none of their business. . . . It doesn't pertain to them. I always tell 'em, "Don't *maha'oe* [be nosey]."

One consequence of these views is that a number of conversations may unfold simultaneously but separately. A particularly clear example of this occurred at Lovey's home one afternoon. Lovey's house had a carport that measured about 20 feet by 15 feet; adjoining this was a small front yard. Three interactions organized along generational lines occurred simultaneously in the small space encompassed by Lovey's yard and carport. In the front yard, five to six children were playing; in the front half of the carport, three teenage boys were working on a car and teasing and flirting with three teenage girls putting up laundry; in the back half of the carport, Henry and Lovey sat at a table talking with three friends of their generation. Although all of these people were well within sight and sound of one another, the interactions of the adults, teenagers, and children developed in separate flows.

The interactional separation between the teenagers and the adults was particularly striking. It was more ritualistic than that between the children and the adults and more clearly an artifact of social orientation. Unlike the children, who were out in the open and some distance away, the teenagers were no more than 10 feet from the adults and under the same roof. One of the boys, a fictive nephew of Lovey, did most of the work on the car and would pass the adults' table regularly on his way to and from the tools. The two girls doing most of the work with the laundry also passed the adults' table frequently, but there was virtually no interaction between the teenagers and the adults. The teenagers did not talk to the adults and avoided eye contact with them as they worked or passed by. The strength of the separation between the teenagers and adults is related to the fact that most of the teenagers were relative newcomers to Lovey's household, but it is also suggestive of the nature of intergenerational dynamics in Hawaiian social occasions.

The adults reciprocated the avoidance behavior of the teenagers, but with some telling differences. Adults might casually observe the doings of the teenagers, usually during lulls in their own interactions. They would also occasionally make a remark about one or another of the teenagers, and particularly Lovey's fictive nephew. The remarks were all positive ones. "He good, you know," Lovey announced at one point—"mechanic." "I admire how he work," one of the visitors said a couple of times. But these and other comments were neither heard nor intended as overtures for interaction. Lovey's nephew merely continued working and avoiding contact with the adults. Everyone could hear almost everything being said in the carport, but the adults and teenagers behaved as though their interactions were in separate worlds.

Exposed in this and other bits of the intergenerational interaction that occurred in the carport, and implicit in the separation that otherwise existed, is the strong notion of authority that maintains the form of the Hawaiian generational system. It was the right of the adults to shoo the children away from their scene of interaction; it was also their right to express disapproval of the teenagers' doings if these were untoward or disturbed their own. It was the adults' right, in other words, to be left alone by both the children and the teenagers. By the same token, however, it was the right of the teenagers and the children to be left alone by the adults. So long as they did not intrude into the adults' doings, their doings were their own affair.

The notion of generational authority exemplified in events like those of Lovey's carport is thus not one that binds people of different generations together in a single interactional flow. Rather than giving adults control over the behavior of children in the context of face-to-face interaction, this notion has the effect of separating adult and child arenas of interaction. It turns the members of different generations inward towards interaction with peers.

"What's Good for One"

Within the kin group, and particularly within the household, a generational skeleton of affairs may be observable in children's experiences of joint responsibility, joint rewards, and joint punishments. These experiences teach children about adult authority, generational autonomy, and also the identity that children share as children.

The practice of joint responsibility among children has clear relationships to the facts of life in a generationally organized system. Adult caretakers are often not in face-to-face interaction with children. To insure the well-being of children, adults make certain strict rules about the things that children can and cannot do and require children to be responsible for one another. Released into adult-defined structures of rules, children are held jointly responsible for following the rules and for taking care of one another. If a child goes out of the legal domain for playing, for example, an older child is to bring the younger one back in, or if all else fails, to inform a parent or other adult.

The other side of this coin is that all the children of a set may be punished if the well-being of one is neglected or if someone is allowed to misbehave. As the children all tend to be together, it is assumed that they have each played some role in whatever goes wrong among them.

One mother recounted an incident in which the two younger of her three daughters were playing with a ball and broke a light fixture. All three of her daughters got spanked, the two younger ones because they broke the light, the oldest one "for not watching the two younger ones."

While all the children of a household share responsibility for one another, this responsibility is borne most heavily by older children and particularly the oldest daughter. Already on the scene, these children know how the system works. They are expected to become facilitators of a toddler's entry into the peer group, and the oldest among them—even when only 5 or 6 themselves—are held closely accountable for "watching" younger children.

For example, a household was being visited by a wide variety of kin, all relatives of the female head of household. These relatives included an uncle (MB), an auntie (MBW), and a younger sister with her two children. The two children were a daughter, Leilani, who was 5, and a son, Kalani, who was 1. Leilani was playing with two young cousins on the living room floor. The visiting uncle and auntie along with some other adults were also in the living room waiting to go out. Leilani's mother was upstairs dressing, and Kalani had disappeared down a hallway. Anon, Leilani's mother, could be heard coming down the stairs, but instead of turning into the living room, she turned down the hallway that Kalani had ventured into. There was a sharp slap. Kalani cried a little, and his mother said, "See?" It turned out that he had gone into the visiting uncle's room and was investigating his luggage. The "See?" was meant to underline for Kalani the consequences of getting into adults' things. In the living room, the uncle now began to speak to Leilani. "Why you no watch brother?" he asked her. He was scolding Leilani, but his tone was less one of anger than quiet authority. There was no response from Leilani. "He stay this side," the uncle continued, "and Mommy stay upstairs dressing or something." Again, there was no response from Leilani. The scene was a powerful one. Everyone present was attending the interaction between Leilani and her uncle. "Watch your brother," the uncle finally counseled, softening his voice and breaking the quiet that had descended upon the room.

It is illustrative of adults' orientation in a generational system that none of them apologized to the mother for not keeping up with the toddler or made alibis for him in an effort to get him off the hook. Instead, watching the toddler was treated as a sibling responsibility that Leilani needed to learn and that her adult relatives had the right to teach.

Especially responsible for younger children, older siblings also learn that they are expected to exercise special authority over them. For example, in the home of Kalani and Leilani a few months after the luggage incident, Kalani knocked a photograph off a table. Both Leilani and her mother were within a few feet of Kalani. Rather than handling the situation herself, however, Leilani's mother said, "Pick that up and slap him [i.e., his hand]." A bit hesitantly, Leilani did these things, learning that she had rights over her brother commensurate with her responsibility for him. Her mother was teaching her to be a kind of surrogate figure of authority.

The difference in accountability between older and younger children often results in the creation of a focal sibling group role. One child may act as a kind of intermediary between his or her own generation and his or her parents' generation, becoming almost as much a parent as a sibling to brothers and sisters and sometimes as much a peer as a child to parents (Gallimore et al., 1974; D'Amato, 1986). Even where this role does not emerge, differences in accountability set up a process of role differentiation through which older children acquire rights and responsibilities over younger ones. Behind this process of role differentiation and Hawaiian children's collective responsibility for one another lies a simple fact and one basic to generationally organized interaction: Adults are often structurally unavailable to attend closely to children. They keep an eye on young children, but for assurance as to the welfare of children, they often rely upon children to look after one another (cf. Boggs, 1985; Gallimore et al., 1974).

Hawaiian protocols for giving goods to children may also follow and reinforce generational contours of interaction. Rewards are sometimes made contingent upon behavior, but less upon individual than group behavior. For example, Hawaiian parents usually expect certain household chores to be accomplished by children. Customarily, the children themselves work out who will do what, and rewards like going to the movies or to the beach are withheld from the entire group when things are not done. Most often, however, rewards are not made contingent upon behavior. Rather than as payment for services rendered, the flow of goods to children takes the form of indulgence, and all children are supposed to share equally in this flow. "If one gets, they all get," Hawaiian parents say, and Hawaiian children come to regard this rule as a moral imperative.

That good things flow to children in the form of indulgence has a number of symbolic effects, the first being that of underscoring the power of adults.

Whether children get treats, money, and other goods depends more upon the "mood" of parents than upon the actions of children. Correlatively, to participate as a child in this reward system is to learn more about the art of cajolery, supplication, flattery, and other forms of winning favor from the powerful than about that of bartering and negotiating contracts with quasiequals.

Secondly, this sort of reward system emphasizes the ideals of family solidarity and of contributing to the family without direct reward. Lastly, that unconditional rewards are given equally to the members of a sibling group emphasizes the solidarity of the children's generation. Giving children rewards contingent upon their individual behavior teaches them competition, and knowing how to compete, among other things, enables people to rise in social hierarchies. However, this type of reward system can also divide children. It induces envy and resentment when one child does not receive as much as another, and it disposes children to vie with one another for parental approval. Unconditional rewards shared equally by siblings do little to teach children about competition, but this system does affirm children's unity as peers. When the choice is adults or peers, the loyalty of Hawaiian children is usually with peers. They may fight each other, but they do not compete against each other to make points with adults.

THE NEED TO "HANDLE": THE IMPLICATIONS OF GENERATIONALLY ORGANIZED INTERACTION

Clear from aspects of Hawaiian everyday life is the fact that face-to-face interaction across generational lines is limited. On the one hand, the notion of authority between generations is so strong as to make face-to-face interaction often difficult to sustain. On the other, social distinctions within a generational stratum, particularly among near-age peers, are conspicuously underdeveloped. It is as though barriers to face-to-face interaction were erected in the one direction and kept from being established in the other. Peer orientation is not absolute and by no means overrides the unity of the family. A boy of 10 lounging against his father's chest while both watch television, a mother laughing as she casts a light shower from a garden hose over a naked toddler thundering joyfully by, another mother's smile of quiet pleasure over a 3-year-old's complete absorption in "helping" her sweep the floor—these, too, are images of Hawaiian interaction. In general, however, the rules of Hawaiian social networks act to encourage interaction among peers and to discourage it across generational lines.

The Hawaiian organization of interaction, in turn, holds systematic implications for Hawaiian values, socialization agendas, and other aspects of social life. The Ritchies (Ritchie & Ritchie, 1979) have used the terms *solidarity* and *autonomy* to describe Maori values, and these terms are also accurate descriptors of the major values associated with Hawaiian social organization.

Children's experiences of helping and "watching" one another, of working together, and of sharing equally in the pains and pleasures of being children establish a lifelong attitude of peer solidarity that disposes Hawaiians to be liberal both in seeking the support and company of peers and in extending that support and company. The value of personal autonomy, however, is equally entailed by the Hawaiian interactional system. Indeed, the requirement of personal autonomy provides its own slant on the theme of peer solidarity.

That adults' face-to-face involvement with children is limited by the generational organization of social settings means, not only that peers tend to interact with peers, but that adults cannot and know they should not lead children, step by step, through the world that envelops them. Generational autonomy, in other words, entails personal autonomy.

As the Hawaiians put it, children must learn to "handle," to "stand on their own," and to "fight their own battles," because the structure of Hawaiian interaction is such that adults are not available to do these things for children. In order to prepare children for this fact of life, and acting themselves in terms of the values of the Hawaiian generational system, adults limit, and know they must limit, the dependency of children upon them. Accordingly, adults strongly avoid behavior that looks like a "babying" of children. They do not take care of children's needs for them; they do not respond with too much comforting to children's experiences of everyday pains; and they do not intervene in children's peer relationships and particularly peer conflicts. While children do seek the help of older children, even this form of dependency is limited.

To be sure, demands that children be autonomous do not begin at once. In the design of Hawaiian socialization, solidarity is the first value emphasized; and infancy for Hawaiian children is mostly a time of conspicuous attention and indulgence. Howard (1974) and Gallimore et al. (1974) have all noted that infants are center stage in Hawaiian networks. The faces presented to Hawaiian infants glow with happiness for no other reason than that the infants are there. Adults delight in the performances of infants, but an infant needs to do no performance to elicit expressions of love from adults. Adults give their love to infants quite unconditionally, neither looking into infants' behavior for signs of competence to tie their expressions of warmth to, nor embedding their appreciation of infants in maturational talk about how well development is proceeding (cf. Howard, 1974).

This center-stage experience, in turn, appears to be the early precursor of children's competence at expressing solidarity in peer interaction, of their confidence as entertainers, and of their sheer appetite for interaction. From the smiles given them, infants learn to smile back, to produce signs of warmth and affection at the onset of contact with others. By the time Hawaiian children begin to toddle, they are accomplished charmers; the light of affection in their faces reflecting the warmth that has been focused upon them in their social networks.

As soon as Hawaiian infants begin to move about on their own and to show a manifest appreciation of linguistic and interactional codes, they encounter the logic of generationally organized social contexts, and they begin to be held accountable for acquiring and displaying the competencies required to fit into these contexts. The very same adults who were so lavish in their indulgence of infants grow distant and sometimes peremptory with toddlers (cf. Boggs, 1985; Howard, 1974; Gallimore et al., 1974). Adult caretakers begin to curtail dependency in children, to transfer child caretaking duties to older children, to move children towards associating with peers, and to require children to develop the forms of personal autonomy required in generational social contexts. This "boot camp" phase in children's socialization may begin when a child is as young as 10 to 18 months and may last until a child reaches the age of 5 or 6.

"You Don't Need Anybody Do for You"

The way kitchens operate in Hawaiian households exemplifies the autonomy that is required and taught children in the area of satisfying needs. Anyone who can may get into the refrigerator, and whatever is there is fair game. It is a kind of commons. *Kapus* may be placed on some food items—cakes prepared for special occasions, for example. Otherwise, children are expected and taught to prepare and search for food for themselves. Toddlers may be instructed to fetch their own bottles from the refrigerator; an older child is often directed to help them through the first trials. Three- and even 2-year-olds venture into the refrigerator or kitchen cabinets for fruit, juice, and other foods that require no preparation. Four- and 5-year-olds learn to make sandwiches or fix cereal for themselves. Nine- and 10-year-olds know how to fry eggs and Spam, and boil water for *saimin*, a noodle dish. When children are hungry, they do not just say so; they get something to eat. The organization of meals, too, is based upon the premise that individuals are autonomous. It is simply taken for granted that people operate on different schedules, possess different tastes, and are capable of fending for themselves.

Except on formal occasions, families are not assembled to eat as groups, and tables are not set. Food is prepared and left on the stove or a counter. People eat as they are ready to eat, getting out their own utensils and helping themselves. They may even prepare something different. The end of a meal is not clearly defined. Dinner leftovers, for example, usually stay out for much of the evening. Someone may not have eaten yet, and people may get hungry again.

Expectations of autonomy are also quite apparent in other aspects of self-management. Even at 4 or 5 months of age, children may be lightly scolded for not "watching" if they spill food on themselves. By 10 or 11 months, toddlers are being instructed to fetch and arrange their own pillows and blankets at nap time. Owing to the progressive elaboration of the idea of autonomy, children may already be very self-reliant by the time they begin school. Even first graders may choose their own clothes in the morning and catch city buses to school by themselves or with kin.

The rationale parents most often give in accounting for why they teach their children to make food and otherwise care for themselves is that parents "won't always be there." This concern with tomorrow is partly a metaphor for a concern with today; in many structural senses, adults are already not there. To be sure, they are there as providers, as rule makers, and as teachers of the interactional system, and they are there to insure that children are taking care of themselves. However, they are not there to do everything for children. The duty of adults is not to do for children so much as it is to equip children with the means of doing for themselves.

Hawaiians, of course, accept that children will be children. Indeed, no child is more dear to a parent or grandparent than one who is mischievous—a "rascal." However, the behavioral latitude given to children does not include permitting them extended displays of dependence.

As children begin to grasp interactional and linguistic codes, they are expected to acquire and display the competence needed to fit into populous social scenes in a self-sufficient way. Levy (1973) writes of "shared privacy" in his account of the Tahitians, and this phrase also suggests the complementarity between solidarity and autonomy woven into Hawaiian social networks and children's early socialization experiences.

"Anyways, Hawaiians 'Sposed to be Tough, Yeah?"

Especially striking are expectations of child autonomy in the management of pain. Here, a contrast to hierarchically organized interaction is especially helpful. In hierarchical contexts, displays of pain are supposed to be treated with sympathy, solicitousness, and remedial attention. This response to displays of pain is based upon the premise that people, particularly children, are easily traumatized, relatively vulnerable creatures who need help from others in dealing with pain. This premise, in turn, helps justify hierarchical social contexts. The idea that people are vulnerable to pain legitimizes both the control of people by social hierarchies and the dependency of people upon such hierarchies; it establishes a need for people to be protected from pain and a right to be taken care of when pain is experienced.

In generational social contexts, however, the ideological need is not to legitimate adult control over children but rather the interactional separation of one generation from the next. The socialization need is not to train children to accept hierarchy but to teach them to function autonomously. The duty of parents, correlatively, is not to stand as a shield between children and the world, controlling the environment and its use in such a way that danger is eliminated, but instead to warn children about dangers and to require them to be responsible for their own safety. The duty is again to equip the child with the means of coping autonomously with situations. Instead of being taught that people are vulnerable to pain and in need of protection from it and comfort for it, Hawaiian children learn that worthy people can "handle"—that they can manage situations without exposing themselves to injury, and that they can endure injury without showing pain.

The politics of adult response to child risk taking exemplifies the contrast between hierarchical and generational social contexts. Hawaiian parents usually do not say, "Don't do that, you're going to hurt yourself," and then wait to see that the child obeys; more often they say, "You watch, you going hurt yourself," and then wait to see if the child does. When the child does, the inclination is not to offer sympathy but to scold the child for not "watching." By means of scolding, parents emphasize personal responsibility for personal welfare and try to strengthen children by showing that the social context is not manipulable through appeals to sympathy.

In order to teach children to "handle" pain, adults try not to allow their own actions to make children fear pain. They avoid becoming excited by children's mishaps; they do not rush at babies, snatching them up from floors when they have fallen or away from couches and other dangerous perches.

A child's experience of pain or danger does not become an opportunity to live out the drama of adult as defender of child. Instead, such events are minimized. Adults try to help children control the fear that accompanies pain, while at the same time, teach children not to expect comforting when they cry. Reassurance about the transience of pain is there while acceptance of dependency is not.

When young children do succeed in handling pain, adults are quick to praise them. A pretoddler, for example, was hanging from a young auntie's fingers as he took a few steps. The scene was outdoors on a brick walkway. Suddenly, the boy fell backwards, coming down soundly on his rump, his weight and the slope then carrying him over onto his back and head. But the boy did not react. His auntie hauled him to his feet. As he hung from her fingers again, she looked him over for signs of injury and said, "Eh, you tough, yeah, Isaac? You tough!"

As was this auntie, adults are concerned when children have accidents. But as did this auntie, they tend to embed that concern in praise and other routines which reward and do not co-opt children's efforts at showing autonomy.

While supportive and encouraging of children's early attempts to handle pain, adults, however, will not accept sustained displays of suffering from children. In particular, they will not accept crying from children who are already old enough to "handle." Especially pointed demands for child autonomy often accompany new pregnancies and may be part of the preparation for a new birth.

On one occasion, for example, a 4-year-old ran into her house, tripped on a rug, fell down, and began to cry. "Shut up, Leilani," her mother at once said in the high-rising tones that amount to a threat of punishment. Her mother was about five months pregnant. "Shut up," she repeated, yet more emphatically, angry at her daughter for crying. "Oh, Lani, what went happen? What went happen?" the girl's grandmother (MM) now asked in a gentle lilt as she came in from the kitchen. "Crybaby, tha's why," the mother said harshly. "Crybaby," she continued, trying to shame the child for crying. Leilani's grandmother helped her to her feet and sat on a couch with her. "Shhhh," she said as she held and rocked her. "Shhhh," she said again. "Quit it, Leilani," she said a little while later, still gently, and finally Leilani began to swallow the crying. Less than 30 seconds had passed since her grandmother had helped her from the floor. The two adults had responded differently to Leilani, but one of their messages to her was the same: In public, one is permitted only very limited displays of suffering.

Adults respond in similar ways to the sort of pain that comes from hurt feelings, again requiring children to limit displays of suffering. Hawaiians empathize strongly with, and seek ways of supporting, people who are trying to cope with hard times. They typically have little patience with anything that approaches an attempt to attract pity.

For example, a husband and wife were planning to go into town for a medical appointment; their children were to be left at the home the couple was visiting. One of the couple's children—a 6-year-old daughter—had thought that she would be accompanying her parents. When she found out that she could not go, she began to cry; when her parents drove away, she lost control of her crying. The auntie (FMZD) who was to be the primary caretaker of this girl and her siblings ignored the girl's crying for a few moments. Then she said, "Nuff [enough], Malia." The crying continued. The auntie again said, "Nuff." More crying. "Shut that mouth," the auntie now said. Still more crying. "Shut that mouth or you going to your room," the auntie said. "You hear, Malia?" When Malia was still crying a few moments later, the auntie said, "Kay, then." She picked up Malia to a crescendo of crying and carried her off to her room. There Malia stayed until she had slept and was composed again. What the auntie was telling Malia by means of her actions was that there would be no pity for her from the social context. She was telling her to accept the reality of things that could not be changed. If there was pain in those things, that pain would have to be accepted without self-pity and without seeking the pity of others.

Adults' limited tolerance of children's displays of pain carries over to a third area, that of discipline. In hierarchical contexts, if an act of discipline has moved a child to tears, it is typically the parent who initiates rapprochement with the child. Manifest differences in power between adults and children need to be kept small so that face-to-face interactional control will continue to be accepted; punishment that causes a child to cry is almost by definition excessive.

When such punishment occurs, it is often parents who feel the need to act next in order to relieve guilt and to restore the covenant of quasiequality in interaction. In generational systems, on the other hand, a strong definition of adult authority is a fact of life. Much teaching of the rules of behavior to children proceeds through their exposure to harsh consequences, and adults feel little compunction about swatting children for misbehavior. Rather than as abuse, corporal punishment—within reason—is viewed as a sign of concern and thus of love for children. Parents who allow children to "make any kind," that is, to behave as they please, are parents who do not love their children enough to shape the inherently willful and "rascal" nature of children. When a child cries because of discipline, parents try not to allow themselves to be moved; sometimes they punish a child for crying too much.

The processual complement to this orientation towards discipline and pain inflicted during discipline are interactional sequences that begin with a child receiving punishment, often in the form of a swat, after breaking a rule or ignoring a warning, and that end with the child initiating rapprochement. Between the beginning and end of such a sequence, there is usually an expression of pain from the child and a period of interactional separation between child and adult; initially, there may also be some conflict between the two over the issue of punishment. These sequences of interaction, however, tend to be completed very quickly. Children know that resistance, large expressions of pain, and sulking are likely to bring on more punishment; on the other hand, once punishment has been administered and misbehavior has ceased, the anger of adults evaporates. Typically, they are at once ready to accept children's overtures of rapprochement. For all adults' tough talk, they delight in children's displays of affection; they take no pleasure, and see no point, in dwelling upon the events that have led up to a punishment. Their interest is in moving interaction forward again; as soon as children are ready for rapprochement, so are they.

The lesson taught them about pain remains the same—that they are accountable for preventing it and for coping with it. The kind of person that this makes for is one capable of showing remarkable tolerance of pain, little inclination toward self-pity, and little tolerance of self-pity in or of pity from others.

"No Let 'Em Step on You"

The most important of generationally organized social contexts, however, is that which affects the dynamics of peer interaction and, in particular, of peer contention. Some form of contention is inherent in all social networks and serves positive group and individual purposes. Contention is a source of diversion for network members and is a means of gaining entitlement to diffuse rewards—acceptance, prestige and power, affection and friendship. Contention is a powerful dynamic that keeps people involved in social networks and keeps social networks productive and enjoyable in a variety of senses. Differences in the structure of social networks, however, key different types of contention. The type of contention that is typical in Hawaiian social networks is directly related to the autonomy between generations featured in these networks.

The contrast between hierarchical and generational social contexts is helpful in clarifying the dynamics of both sorts of settings. In hierarchical contexts, the whole pattern of relationships between adult and child generations fosters the dependence of children upon adults and encourages the involvement of adults in children's peer relationships. Adults freely engage children in face-to-face interaction, control them directly, draw distinctions among them for the purposes of rewards and sanctions, forbid peer conflicts, and intervene when such conflicts occur. Together, these features of the environing adult context teach children the idea of competition, a process of peer contention managed and judged by superiors. In generational contexts, on the other hand, the whole pattern of relationships between adult and child generations fosters the collective autonomy of children from adults and discourages the involvement of adults in children's peer relationships. Adults control children indirectly and more as groups than as individuals and tend not to draw distinctions among them for the purposes of rewards and sanctions. Adults also take for granted that children's peer relationships are not the proper concern of adults. They avoid orchestrating children's friendships and particularly avoid becoming involved in their conflicts. Together, these features of the environing adult context teach children the idea of rivalry, a process of peer contention managed and judged by peers themselves (cf. Goodwin, 1982; Labov, 1972).

Consistent with the structural differences between competition and rivalry are differences in participants' goals, in their face-to-face strategies for achieving goals, and consequently in adult socialization agendas. The goal in both competition and rivalry is to win, but winning means different things in these two dynamics. In competition, it means showing that one is superior to peers, ultimately so that one will rise in interactional hierarchies. Related to this goal is a face-to-face strategy of being frank, earnest, and direct about one's abilities, credentials, and desires vis-á-vis peers. Related to this face-to-face strategy, in turn, is an adult socialization agenda that emphasizes teaching children forthrightness and candor in presenting and defending personal interests vis-á-vis peers. In rivalry, on the other hand, winning means establishing small advantages within the peer stratum. It means demonstrating that one is as good as others, that no one is better than anyone else. Proving qualitative superiority to peers is pointless since there is no interactional hierarchy to climb. Indeed, because peers themselves manage and evaluate peer contention, strong statements of superiority to peers are likely to give offense and lead either to exclusion from the peer group or to conflict.

Related to the goal of achieving small and typically shortlived advantages within the peer stratum is a face-to-face strategy of showing both personal autonomy and peer solidarity. Hawaiians gloss these qualities as the attributes of being "tough" and being "nice." Statements of peer solidarity—made paradigmatically through warm and friendly looks, greetings, and strong declarations of affection—are present in peers' face-to-face style as a method of inviting friendship, denying ill feelings, and framing interaction within an autonomous peer group as a pleasant and harmless diversion. Statements of personal autonomy—made paradigmatically through a kind of explosive reaction to affront, but also through such nonverbal means as clothing and posture—serve the equally critical function of warning peers against ill treatment and of claiming rights to acceptance and some prestige.

In rivalry, peers' object is to make room for one another within the peer group through the establishment of symmetries of respect. The point of combining peer solidarity and personal autonomy in presenting the self is to smile at peers but in a way that shows teeth (D'Amato, 1986).

The context in which children first encounter the autonomy expected of them in peer relationships is that of peer conflict. They discover that adults are extremely reluctant to become involved in their peer disputes. The logic of this reluctance is directly related to generational social norms. In hierarchical systems, adults attempt to cope with children's peer conflicts by means of the group norms of forbidding children to fight and of intervening and counseling children when disputes and conflicts do occur. The idea here is that the way to control children's conflicts is to teach them not to fight and to make the consequences for fighting relatively severe.

Children's conflicts need to be tightly limited, because such conflicts tend to undermine the managerial status of adults. They also tend to feed quite rapidly into conflicts between adults, owing to the joint participation of children and adults in interactional situations.

In generational systems, however, it is taken for granted that children's peer relationships are their affair, not that of adults. It is further assumed that children's conflicts are relatively minor and shortlived matters unless adults get involved. Congruent with these views, the adult norm is to stay out of children's peer conflicts as far as possible. The idea is that children will learn to control fighting by themselves if managing the possibility of conflict is made their responsibility and no one else's. Accordingly, instead of teaching children not to fight, adults teach children that they should avoid provoking peers, but also that they must fight back if peers "make trouble." In hierarchical systems, parents who permit children to fight are regarded as irresponsible; in generational systems, the reverse is close to being true. Here, it is adults who play too strong and direct a role in children's peer affairs, not allowing them to work out things for themselves and to learn from this process, who are viewed as irresponsible, even culpable for children's problems.

The structure of Hawaiian interaction is such that children must be taught to learn to make their way with their peers on their own. The first socialization sequences that teach these facts of life to children typically unfold in the course of children's early conflicts with kin.

For example, a 20-month-old had been making trouble for his cousin (MZS), who was about 2½ years old. Though younger, the 20-month-old was spunkier and not much smaller and had been successfully harassing his cousin. The older boy finally climbed up on a bench to get away from his cousin and to be near his mother, who was talking with peers. As the 20-month-old made yet another sortie, the 2-year-old let out a yell, attracting his mother's attention. It was not protection, however, that he got from her. His appeal had already broken the generational code of Hawaiian interaction, and his mother let him know it. "Stand on your own," she demanded in a voice full of impatience and disapprobation.

Circumstances may be such that parents feel they must intervene in children's peer conflicts. This usually happens when their own children are winning lopsided victories within sight and hearing. But even in these contexts, children usually receive the message that it is not necessarily a bad thing that they have stood up for themselves. From early childhood experiences, children learn a number of essential facts. They learn first that appeal to adults is indeed limited, that to a great extent they are on their own in peer relationships. They learn also that adults approve of children who stand up for themselves and show little patience or sympathy for ones who do not. Children learn that they must be "tough" and fight back when challenged. As one kindergarten girl said in explaining why she had punched a male classmate hard enough to make him cry, "My mommy say, if can, ignore. If no can, beef 'em."

Through socialization to autonomy in peer relationships, however, children also learn that their peer conflicts may disrupt relationships within their village of kin and friends. They learn further that adults neither approve of this nor favor fighting as an end in itself. Adults tolerate it and approve of it when it serves the positive end of affirming and defending legitimate rights in peer relationships, but they do not when it is carried to bullying or is so unrestrained and frequent that it becomes disruptive of social order. The idea is that some fighting (short-lived, characterized more by bluster than blood, and more likely to produce a deepening, then a breaking of relationships) is a customary, indeed, exciting and diverting aspect of peer contention. The potential for conflict, though usually not realized, always adds a certain *frisson* to peer interaction. However, conflict is not supposed to be that form of contention which dominates peer interaction. Rather than through conflict, dramas of self are supposed to be worked out through teasing, joking, and similar processes of give and take among equals. Children learn that, ultimately, it is the image of the smile, rather than that of the teeth, that is supposed to be emblematic of the group and its dynamics. They are expected to stand on their own in peer relationships, but through processes that provide room enough for everyone to make the claim of being able to "handle." Children gain expertise in teasing, joking, and similar processes of rivalry primarily through experiences with peers, but they are also given an appreciation of the basics of these processes through their relationships with adults and older children. The design of Hawaiian socialization, in other words, does not simply make the demand that children "handle" their peer relationships; it also gives them an understanding of how to do so.

This preparation of children for peer rivalry occurs in a number of contexts—two of which are especially important. The first is that of discipline. Hawaiian adults punish misbehavior in children, often in no uncertain terms. At the same time, however, they reward the idea of mischievousness. They laugh about things that children have done, indeed boast about such things because they are entertaining and show the valued characteristics of spunk and a strong personality.

An episode involving a young father is illustrative of the value placed by adults on evidence of spunk in children. This man, who had been separated from his children for about a month owing to his wife's medical problems, said that he had sorely missed all of his children, that things had been "too quiet" without them. "Especially this one," he said, wrapping his arms around his older son, a boy not quite 5. "He the most rascal, tha's why," he explained. He then went on to describe how his son had painted the family dog, had stopped up all the toilets with wads of toilet paper, and done other things which doubtless had earned punishment, beaming all the while about how "rascal" his son was. From experiences like this, Hawaiian children learn to break adult rules in part as a way of amusing adults, of seducing them with imaginative mischievousness. Within the economy of adult-child relationships, the legality of mischievousness provides both adults and children with needed access to a type of reciprocity. Mischievousness does not undo adults' strong rights to authority. On the contrary, it presupposes these rights, but it does provide children with a means of turning the tables on adults. It also prepares children, more or less intentionally, for the sort of risk taking that must be done in teasing and joking in peer interaction. To tease and joke with peers, children must take liberties with peers' identities, doing things that look like putdowns. To carry this off successfully, they must tease and joke with an insouciance that amuses rather than offends, that attracts peers rather than repels them. Hawaiian children first learn the ins and outs of this through the liberties that they take, and are encouraged to take, with adults' roles as figures of authority. Adults' practice of punishing misbehavior while also praising the willfulness and mischievousness that is presumed to drive it has the effect, in other words, of cultivating the sort of charisma required by children for successful participation in peer rivalry.

A second context that prepares children for doing friendly sparring with peers is adults' use of teasing as a form of play with children (cf. Boggs, 1985; D'Amato, 1986). This play acquaints children with formulaic methods of doing teasing and joking. More importantly, it teaches them the idea of parity central to playful peer rivalry; it teaches them to accept and enjoy laughter at self and to respond to this laughter by turning teasing and joking back onto others.

By the time children are 4 years old, they begin to show skill at independent use of the formulas of teasing and joking. For example, Leilani, a 4-year-old, was sitting outside with her grandmother. "Look Tiny," said the grandmother, smiling. Leilani looked at Tiny—a dog—and laughed. Tiny had curled up in a flower pot to get out of the heat. "No laugh [at] Tiny," said the grandmother, laughing. "That my pet that! That my boyfriend," she continued, teasing her granddaughter. "That your boyfriend? Marry 'em, then!" replied the granddaughter. "And then we make house and raise family," laughed the grandmother, picking up the theme. "He go work, and I stay home! Cook dog food!" she said, and both she and her granddaughter laughed.

The capacity to do playful sparring, however, is not won easily. Sometimes adult teasing and joking of young children takes on the character of hazing. In reaction to this, children may lose control of their emotions, becoming both very hurt and very angry. Hazing is particularly likely to occur when a new birth is due. In this context, hazing represents a rite of passage through which children are made to give up rights to dependence and unaccountability. Through this rite of passage, children also acquire the orientation they need to be competent in managing face-to-face interaction within the household, kin group, and peer group. They learn that, in teasing, too, people are on their own, that one must feed the emotions that come from being teased, not into displays of suffering or anger, but into reciprocations of teasing.

Almost immediately after Leilani's mother gave birth, the intensity of the adults' hazing of Leilani lifted, and Leilani herself began displaying another sort of competence that appeared to have been forged in her earlier experiences. One day soon after the birth of her brother, for example, Leilani and her mother were visited by an uncle (MZH) and a friend of the uncle. As the two men approached, the uncle said, "Hey, Miss Piggy!" to Leilani, and the uncle's friend laughed. "No laugh," replied Leilani to this individual, "you fat, too!" Leilani's mother laughed with delight at this response and began repeating this and similar stories to visitors. "He is, you know," she would say, "he fat, too!"

She had learned to give as good as she got and was demonstrating a familiarity with the process of banter and with the complex of emotions that underlies teasing and joking that she had not possessed even a year earlier. For their part, the adults were allowing Leilani room to demonstrate expertise with this most complex aspect of Hawaiian self-presentation, tolerating and applauding her performances and helping her to extend them. At the same time, however, they were themselves learning a lesson from Leilani; namely, that they could no longer tease her with impunity. If they did tease her, she would fight back, and the ramifications of this within the adults' own peer network were not easily controllable. Through the mutuality of the learning process between Leilani and her adult kin, they were moving together towards understandings that preserve teasing and joking as a form of affectionate play between elders and juniors but that also reserve the full elaboration of these processes for peer interaction.

SUMMARY

The individuals who emerge from the different aspects of early Hawaiian socialization are as diverse and relatively undefined as are 5- or 6-year-olds anywhere. However, they do share a certain orientation to experience that becomes refined over the course of their lives. A way of articulating this orientation to experience is through a final contrast between hierarchical and generational contexts, phrased this time in terms of a distinction between developmental roles and age roles. Developmental roles have to do with a person's status in the maturational cycle of the human organism. Thus, one may speak of people as "adults" or "children" in the sense of their having attained a certain age and a certain level of physiological and neurological development.

Social networks, however, also establish definitions of how children and adults are supposed to behave, of what their attitudes and preferences are supposed to be. Age role definitions vary widely and are only loosely tied to developmental roles; children play at being adults, adults at being children. Age roles represent contrasting but complementary ways of articulating the self; they are different fronts that people of all ages juggle in presenting themselves to one another and in coping with their experiences.

In complex societies, as Berreman (1966), Cornell (1967), De Vos and Wagatsuma (1966), and Ogbu (1974, 1978) have forcefully pointed out, certain minority groups may be denied access to the primary performance frameworks in which the definition of valued personal and group identities is customarily achieved; namely, roles in the economic and political system.

Implicit or explicit social rules regarding access to opportunities may prevent members of such minorities from contending for positions of power and money. Among the performing frameworks left for members of these minorities are religion, the arts, entertainment media, revitalization movements, the family, and above all, face-to-face interaction with peers. The development of a generational structure of interaction would seem to follow from the special significance and conditions of peer interaction for members of these minorities. In traditional societies, on the other hand, peer interaction may also have a special significance, but for different reasons. Here, political and economic opportunities may be limited, not through the power of superordinate groups, but through the power of elders. Positions of power and responsibility may be monopolized by elders; the young may gain access to these positions only through a kind of collective march through successively more prestigious genealogical statuses. A generational structure of interaction would again seem to follow from the organization of opportunity and limitations on the frameworks available for doing performances of value.

The case of the Hawaiians seems to exemplify the influence of both sorts of constraints upon face-to-face culture, socialization, and related matters. For at least 150 years, the Hawaiians as a group have been excluded from positions of power and responsibility and otherwise oppressed, more or less, by design. The Hawaiian emphases upon peer solidarity, personal autonomy, and the use of rivalry in creating individual and group feelings of worth are doubtless related to these historical and ongoing facts regarding the organization of opportunity in the Hawaiian Islands.

In coping with their loss of sovereignty and exclusion from political and economic opportunities, however, the Hawaiians have made use of themes of social structure having rather different origins. Morgan (1871) termed the Hawaiian kinship system a *generational* one for the reason that the major distinctions within the system were ones of age and sex. As Fox (1967) points out, the symbolic effect of this type of kinship system is to draw a line around the peer stratum and to establish peer interaction as a primary context for relationships. In traditional Hawaiian society, and in Polynesian society generally, this strategy for organizing interaction appears to have been related to the control over opportunity exercised by elders and by a hereditary elite. In this context, autonomous peer groups and the peer dynamic of rivalry enabled individuals to use peer interaction as a resource for establishing worthy identities. This is not to claim, of course, that the Hawaii of old is the same as the Hawaii of today. It is to say that cultures are historical facts. If there are similarities among the cultures of oppressed minorities in complex societies, there are also differences stemming from their distinctive histories and efforts at coping with facts of political and economic subordination.

Whatever its origins, the nature of Hawaiian interactional culture should provide a basis for both hope and concern regarding the socialization of Hawaiian children in institutional contexts like schools. It should be a cause for hope, because Hawaiian face-to-face culture is based upon positive ideals and conceptions of the self and the group. It is sometimes held that the politics of discrimination in complex societies are such that members of oppressed minorities socialize children to a culture of manipulation, dependency, compliance, interpersonal exploitation, and hostility towards outsiders (e.g., Cornell, 1967; De Vos & Wagatsuma, 1966; Ogbu, 1974, 1978, 1982). At least in the Hawaiian case, this is too skewed a picture. Hawaiian themes of social organization and self-presentation have given the Hawaiians a means of doing more than surviving a history of sustained exploitation and adversity. It has given them the means of coping with this history without the loss of pride, dignity, or humor. At both collective and individual levels, Hawaiian culture has given Hawaiians the means of "handling." This fact, in turn, establishes the possibility of productive relationships between young Hawaiians and non-Hawaiians in public settings like schools. As the Kamehameha Early Education Program (KEEP) has shown, it is possible to establish interactional structures and dynamics in school settings that are consistent both with Hawaiian interactional themes and with the goals of educators (D'Amato, 1986).

On the other hand, Hawaiian face-to-face culture should also be a source of concern. Both hierarchical and generational social contexts tend to perpetuate themselves. Hierarchically organized social networks produce individuals who keep the idea of competition going through their contentions with one another and through their attitudes towards the socialization of children. Generationally organized social contexts, however, also tend to reproduce themselves, for they shape individuals who are reluctant to stand above peers, who are relatively intolerant of conspicuous successes by peers, and who instill these attitudes in children. So long as rivalry is maintained by Hawaiians as a dynamic appropriate to peer interaction within the household, kin group, and friendship group, there is no harm in the politics of peer egalitarianism.

On the contrary, there is much that is noble in this approach to peer contention. If rivalrous peer dynamics are extended to all frameworks of performance, however, then Hawaiians may contribute to their own entrapment in low-status roles. The Hawaiians have a metaphor that describes the net effect of rivalrous social dynamics. They liken themselves to crabs in a pail; they say that if one crab tries to climb out, the others pull it back in. Understood as a metaphor for teasing, joking, and other harmless forms of peer contention, this image may be taken to exemplify the rueful humor and lack of pretention with which Hawaiians regard their own rivalrous peer dynamics. Understood as a description of the fate of individuals' efforts at improving their social status, however, the metaphor is a sobering suggestion of how a people may simultaneously transcend impoverishment and powerlessness and help to perpetuate these very conditions.

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Chapter 3

KIN AND CALABASH: THE SOCIAL NETWORKS OF PRESCHOOL PART-HAWAIIAN CHILDREN

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INTRODUCTION

The social networks of young children have recently received attention from developmental psychologists and sociologists in their attempts to take into account the broader social context in which individual development takes place. As Cochran and Riley (1988) point out, researchers interested in children's development have tended to study them in bounded groups (preschools, schools, the nuclear family): "The concept of the child as custodian of his or her own unique set of social relations, unbounded at least in theory, is of recent vintage" (p. 114). The bounded group in which children's socialization has been most frequently investigated is the nuclear family, and often only one dyadic element of that family: the mother and child. Children in the United States have many social experiences other than their immediate families; and for children in most other countries, people beyond the immediate family are often just as important as the immediate family (Weisner & Gallimore, 1977).

Until recently, there has been little information on who beside the family comprised children's social networks. Salzinger, Hammer, and Antrobus (1988) argue that the most basic kind of information is needed, for example, "what constitutes normal, or adequate, social contact for children, at what ages, and does this vary with context?" Given that this is a new endeavor, it is crucial at the outset that information be developed cross-cuturally so that stereotypes are not created that must then be modified and challenged as the research is extended culturally and intraculturally.

Many reasons besides simple curiosity exist for investigating children's social networks. Adult social networks are a function of the availability of individuals as well as the tendency of the adult to make use of those individuals to create a network (Oliveri & Reiss, 1987). Perhaps because of this interactive nature, adult social networks have proven to be important in understanding vulnerability to physical and mental illness (Lin, Simone, Ensel, & Kuo, 1979; Williams, Ware, & Donald, 1981). Children have less independent control over their networks; children exercise choice only within the social network to which they are exposed through family, neighborhood, preschool, and play groups. Their interactions with network members must be an important socializing force, shaping the child's perception of self, providing key experiences that interact with linguistic and cognitive competencies, and setting up expectations in the child about the potential responsivity of adults and children.

Children's social networks have recently been investigated in terms of their relation to peer status in preschool classrooms (Ladd, Hart, Wadsworth, & Golter, 1988), to linguistic competence (Salzinger & Hampson, 1988), and to social and academic competence in elementary school (Nair & Jason, 1985). In this research, we were interested in the social networks of part-Hawaiian children as they might relate to the introduction of preschools in Hawaii. (There are few full Hawaiian individuals remaining on the islands; hence the term *part-Hawaiian* is used for those who can demonstrate Hawaiian ancestry.)

Preschool attendance in Hawaii is much less typical than it is on the mainland. Kamehameha Schools/Bishop Estate had decided to provide preschools for young part-Hawaiian children; and in the process of deciding how those preschools should be structured, this research project was undertaken. (The extensive educational and research role of the Schools and the Center for the Development of Early Education is described in a recent book by Tharp & Gallimore, 1988.) It was assumed at the outset that the usual preschool function of socializing children who have had limited experiences outside their family and neighborhood would not be appropriate for part-Hawaiian children, who tend to have large extended kin networks on the island. The size of those networks, frequency of contact, and role responsibilities with preschool children were all unknown.

As we investigated a means to study these children's social networks, it was apparent immediately that a variety of methods existed. The most usual method has been one of self-report; the form of the self-report has ranged from requiring adults to estimate the number of relatives and friends they possess (Margolis & Farran, 1984; Lin et al., 1979) to asking them to complete questionnaires (Oliveri & Reiss, 1987) or grids (Ladd et al., 1988) listing individuals they know, or finally to interviewing them face-to-face and eliciting individual names (Salzinger & Hampson, 1988). Typically informants are asked to record individuals they consider part of their (or their children's) social network and to describe their characteristics (age, gender, kinship) and frequency of contact. Without follow-up data on an actual contact between the informant and network members, it is hard to estimate how valid the self-report information is.

The goals of this study were (a) to document the social networks of part-Hawaiian preschoolers noting the size of the networks, frequency of contact, and role responsibilities of network numbers; and (b) to compare information from a system devised to yield this information more accurately with that obtained from a single interview method.

METHOD

In order to describe the nature of part-Hawaiian preschoolers' social networks, a diary record-keeping method was created and compared to the results obtained by the more traditional interview method. To ensure that the sample represented more than just one group of part-Hawaiian families, families were recruited from two preschools in different geographical locations—a group of city families, and a group of families living on Hawaiian homestead land in a rural coastal area on the island of Oahu.

SAMPLE

The two samples (city and rural) were recruited from two preschools run by Kamehameha Schools on the island of Oahu in the state of Hawaii. One preschool was located in the city of Honolulu and the other on the rural leeward coast. Based on teacher and staff recommendations, 27 families agreed to take part in the project—12 from the city and 10 from the rural preschool. Two of the 12 city families were dropped from the final sample. One of the families differed in SES from the rest of the group, and the other family's diary was incomplete. Thus, the final sample consisted of 10 families in each group (city and rural).

The urban families lived in the city of Honolulu, primarily in government-subsidized apartment complexes. The rural families lived in a neighborhood of single family residences built on Hawaiian homestead land on the leeward coast of the island of Oahu. Homestead land is land that has been set aside by the government to lease to persons of 50% or more Hawaiian ancestry. The lease is nominal ($1 per year).

Information on the demographic characteristics of the families was obtained from the family background forms that parents complete as part of the admission procedure for each preschool. The urban preschool was aimed at reaching "at-risk" Hawaiian children. Its admission policy required that 75% of each class be drawn from families receiving welfare assistance. In the rural school, children were randomly selected from among all applicants in that school district. Thus the two samples differed from each other on certain demographic characteristics partly because of the different admissions criteria of the two preschools. For example, 9 of the 10 urban families received welfare assistance, while only 3 of the 10 rural families received assistance.

In both samples, paternal occupation was primarily working class, such as repairman, truck driver, parking lot attendant, and salesclerk. All of the urban mothers were homemakers, but four of the rural mothers had full-time or part-time jobs outside the home. Educational levels of mothers and fathers in both samples were comparable—the majority were high school graduates.

Household income for all the urban families was under $15,000; 6 of the 10 rural families listed incomes above that figure. However, this difference may be misleading. Household income is often not comparable across families, as it includes the income of variable numbers of working adults (such as uncles and aunties in an extended family). The rural families tended to be extended; hence their household incomes were generally higher than those of the urban families, which were primarily nuclear or single parent households.

The target children in the urban sample were five male and five female preschoolers. In the rural sample, four of the preschoolers were male. All 20 children's families were established, multigeneration residents of Oahu. They were all part-Hawaiian.

At the time of the initial interview, nine of the rural and five of the urban preschoolers were reported as living with both biological parents; the remaining children lived with their mothers. Overall, the number of siblings in the households ranged from zero to five, averaging 2.2 siblings. Rural preschoolers tended to have more siblings ($M = 2.6$) than urban ($M = 1.9$). Furthermore, about 50% of the siblings included in the urban sample were half-siblings.

PROCEDURE

The entire data-collection procedure took 6–8 weeks to complete and consisted of three parts: an initial network interview, diary keeping for four consecutive weeks, and a role interview. The purpose of the *interview* was to obtain a detailed list of the people whom the parent thought the child knew and interacted with outside of preschool (i.e., the child's social network). A *diary* method was developed to enable parents to keep daily records of the child's actual contacts with people. In the *role interview*, information was obtained on the various roles that frequently seen network members performed with the child.

Initial Interview

In the initial interview, which took about an hour, each mother was asked to name the people with whom her child interacted socially outside of school. Mothers provided individual names and each person's age, sex, relationship to the child, how often the person had contact with the child, and the kinds of activities the person engaged in with the child.

Each network member's name was then typed onto seven circular label stickers (one for each day of the week), connected to the stickers of other persons in the same household, and stapled to the bottom of a laminated 7-day calendar board. Groups (e.g., "volleyball team," "church friends") with whom the child interacted were treated as a unit and given single group names on the stickers.

A weekly packet of materials consisted of the 7-day calendar board, with seven pretyped name stickers for each individual mentioned in the initial interview, novelty stickers for the child, and extra sheets of blank stickers. The extra stickers were for recording the names of people whom the child saw but who were not listed during the initial network interview.

Diary Keeping

The procedure for recording the child's daily contacts with people in the network was explained to the mothers individually. The mother was asked to display the calendar board in a prominent location (e.g., on the refrigerator door) in the house and, at the end of each day, review with the child the people the child had seen that day. Each person's sticker was then affixed in the column for that day. A person's sticker could appear a maximum of once each day, irrespective of the number of times the child may have seen that person throughout the day.

If the child saw a person who was not on the initial network list, the mother was told to write the person's name on a blank sticker. These added individuals were most often people who had been forgotten by the mother during the initial interview; a few were new members to the child's social network.

This process was repeated for 4 weeks. Each week the mothers exchanged the completed calendar for a fresh set of materials for the upcoming week. When there were new network members listed, the interviewer asked the same detailed questions about these people as in the initial interview. These names were then added onto the child's network list.

Role Interview

At the end of 4 weeks of record keeping, parents were interviewed to determine the participation of active network members in six key roles. Active network members were defined as individuals who were seen by the child more than two times during the 4 weeks. The six key roles were ones that were relevant to school skills (reading, teaching school skills), roles that would contrast with the former (caretaking, hobbies), and roles that would target people potentially available for educational roles (special outings and attention, overnight visits). Education-related roles were of particular interest in connection with the role of the preschool as a complement to the family.

Names of active network members were listed separately on cards, and parents were asked to sort the cards members according to their participation in each of the six roles, one role at a time. The categories were (a) definitely performs the particular role, (b) might perform the role or activity, and (c) definitely *does not* perform the role. Those network members who were given a definite yes were then further sorted into three subcategories: (a) those two to five persons who engaged in the activity most often, (b) those persons who did it often, and (c) all those remaining.

RESULTS

Since the study's purposes were both methodological and descriptive, the results are presented in two major sections. The first section is descriptive and compares the rural and urban results; the second section compares the diary and interview methods.

Characteristics of Preschooler's Social Networks

Size and Composition of the Networks. Children were in contact with a large number of people from a great many households or groups (such as athletic teams and church groups). As Table 3.1 shows, rural networks averaged 36 households and 107 persons, while urban networks were substantially smaller, averaging 25 households and 66 persons. These figures do not include children and teachers seen at the preschool unless individuals from that group were seen

Table 3.1 Hawaiian Networks*: Numbers and Frequency of Contact

	Urban	Rural
Households/Groups		
Mean	25.3	35.8
Range	10–56	21–56
Individuals		
Mean	66.0	106.6
Range	33–122	51–190
Average Seen Per Day (Over 4 Weeks)		
Mean	19.2	23.7
Range	10–50	13–32
Percentage Never Seen During 4 Weeks	7%	25%

*Exclusive of those seen in preschool

Table 3.2 Hawaiian Networks: Demographic Characteristics

	Urban	Rural
Age		
Preschool	18%	12%
School age	29%	36%
Adults	53%	52%
Gender		
Males	44%	51%
Females	56%	49%
Relationship		
Relative	53%	58%
NonRelative	47%	41%
Relationship link		
Maternal	48%	33%
Paternal	22%	26%
Other (joint)	30%	41%
Generation		
Grandparent	11%	7%
Parent	42%	50%
Child	44%	39%
Younger than child	1%	3%

outside of school. Individual members of a parent's sports or church group were also excluded, unless the child had personal contact with individual members of the group. Thus, these 4-year-olds knew a great many people, more than are listed here, that their parents considered socially connected to them. Moreover, they saw a large number of people in a day; on weekdays these contacts occurred before 8:00 a.m. or after 3:00 p.m., the hours that the child was away at preschool.

Table 3.2 presents the demographic characteristics of the networks. It is apparent that there were approximately equal proportions of adults and children in both urban and rural networks, through there was a higher proportion of preschoolers in the urban sample.

Slightly more than half the network members were relatives in both the rural and urban samples. Listed also on Table 6.2 are the proportions of network members who are linked to the child through the mother, father, or *other* (the *other* category refers to family friends, neighbors and the child's friends). Almost half the network members in the urban networks were linked through the mother (her friends or relatives), whereas only a third of the rural networks were linked through the mother. The urban networks also contained a slightly higher proportion of females (56%) than did the rural networks (48%). These differences may be a function of the greater number of single parents in the urban group. Hence, the networks may have consisted primarily of the mother's friends and relatives. In the rural sample, families were mostly intact families, and a higher proportion of the networks were linked through the family in general.

The urban and rural samples were different from each other in terms of the proportion of network members at different generation levels relative to the child. In the rural networks, 53% of the members were at or below the child's generation, while 45% of the urban sample were at or below the child's generation.

Frequency of Contact. The sample networks were not only large, they were also very active during the 4 weeks of record keeping. In the combined sample, children were in contact with almost 82% of their network, and more than 50% of the network members were seen more than four times over the 28-day period.

Figure 3.1 presents data on the frequency of contact for the urban and rural networks separately over the 4-week period. Each bar represents the percentage of the network members who saw the target children a specific number of times over the 4-week period. For example, the extreme left bar indicates that 7% of the network in the urban sample did not see the target children at all during the record-keeping period. This percentage was 25% for the rural sample. Thus, 93% of the urban networks had some contact with the target children over the 4-week period. This is especially interesting, because there is a difference in the average size of the rural and urban networks. Thus, although the rural networks were larger, the two samples did not differ notably in terms of the actual number of people seen by the target children. An average of 61 individuals in the urban sample and 79 in the rural had contact with the target child at least once during the 4-week period. Even more striking is the comparison of the average number of people in the two samples who saw the children four or more times during the 4-week period—38 people in the urban networks, and 40 people in the rural networks. Thus the actual size of the core of active network members is not markedly different for the two samples, despite the difference in the number of network members listed. Rural parents considered a larger number of people as members of their child's networks though the child may have infrequent contact with many of these people.

The pattern of findings on frequency of contact also suggests that the networks were active and not wedded to a day-to-day routine. Though children typically saw a fairly large number of people each day, a small percentage of network members were seen all 28 days of diary record keeping. This pattern was similar in both samples. Only 3.2% of the urban network members were seen consistently over the 28-day period, only 5.8% of the rural network were seen every day. Further, in 6 of the 20 families, none of the network members (not even the mother) was seen every day of the 4-week period. Children sometimes spent two or more nights (e.g., the weekend) at a relative's home. The fact that children saw a large number of *different* people from day to day indicates that their networks were fluid and active.

Characteristics of Frequently Seen Network Members. Network members who saw the child 16 or more times over the 4-week period were categorized as

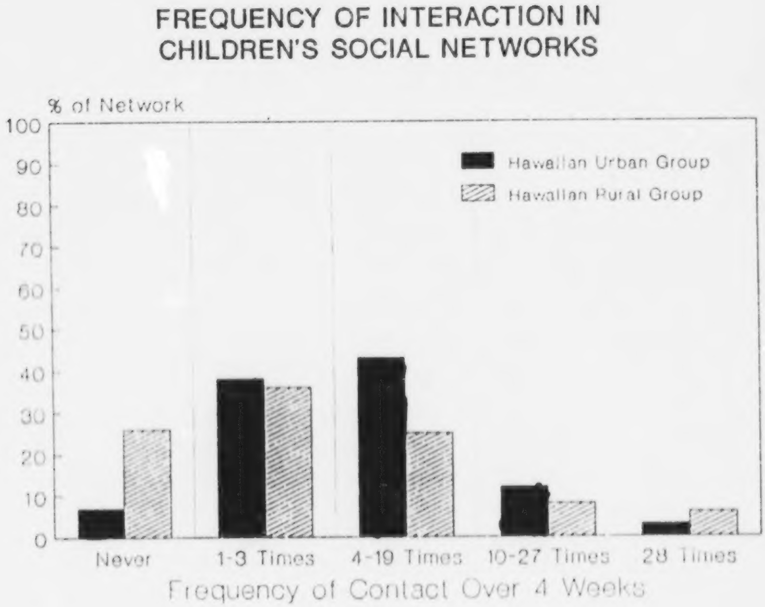

Figure 3.1. Frequency of Interaction in Children's Social Networks

active or *frequently seen*. The majority of frequently seen people were relatives. In the urban sample 62% of the frequently seen people were relatives. The comparable figure in the rural sample was 78%. In each sample, less than 20% of the people who had frequent contact with the child were friends or relatives of the *father*. Thus children's active networks primarily consisted of mother's relatives and friends, and friends of the family or child. Many of these close friends function as family and in Hawaii are known as *calabash*.

Roles Played by Network Members. For the present analysis, the three definite-yes categories were collapsed into one. The range of percentage of network members performing the six different roles varied from about 10% in the education-related roles, to 20% in the caretaking and special-attention roles. In both samples, nearly 20% of the network members provided special experiences, such as taking the child out to eat or to the movies or giving special gifts to the child. Going places often involved large groups with children being collected from various households along the way, in keeping with the picture of these networks as active and fluid.

The percentage of people performing each role varied among the individual networks. For example, the percentage of network members mothers reported as reading to or with their child ranged from 0% to 29%. Three parents reported that more than 20% of the network read with or to their child. One of these mothers explained that most of the 29% of the people who read with the child did so rather infrequently.

For an in-depth description of the characteristics of active network members, we have focused on the two education-related roles (reading and teaching school skills) and two contrasting roles (caretaking and hobbies/sports) reported in Figure 3.2.

Characteristics of Network Members Performing Various Roles. Overall, most of the people who performed the four roles were relatives. This percentage ranged from 65% to 89% for different roles. Hobbies and sports involved the highest proportion of nonrelatives (35%). More nonrelatives were involved with the children in the urban sample. In both samples, most of the persons reported as performing each of the four roles were adults. This is strikingly the case for caretaking where more than 78% of the people (in both samples) who performed the role were adults. The usual assumption that large Hawaiian families depend on older children for caretaking (Gallimore, Boggs, & Jordan, 1974) is not

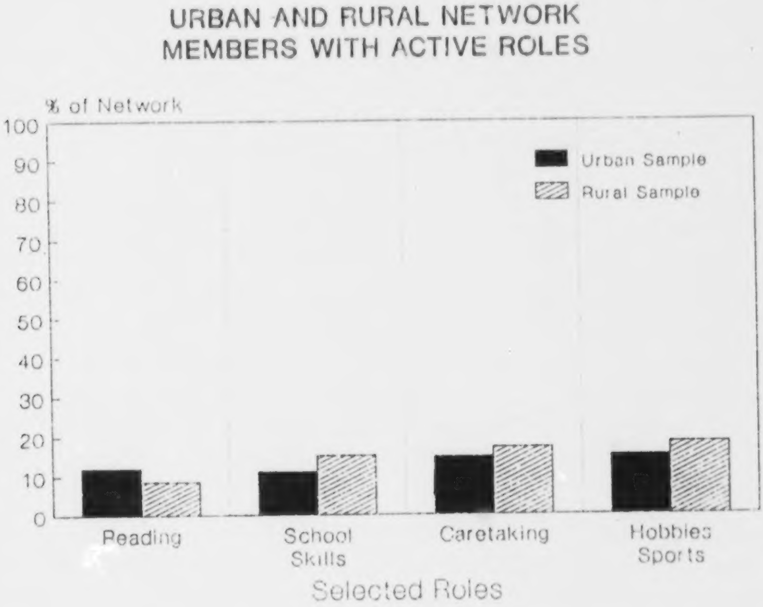

Figure 3.2. Urban and Rural Network Members with Active Roles

readily obvious from our data. If older children are frequently involved in caretaking, it is either restricted to a few families or underreported by these 20 parents.

Primarily adults and older children were reported as involved in teaching school skills in both samples. Approximately equal proportions of adults and children were involved in hobbies/sports activities and in reading with children in both samples. Much of the reading that went on was done with other children (this might have meant "sharing" or looking at a book together). In fact, in the urban sample, almost 20% of the people listed as reading to the child were preschool aged. In terms of actual numbers, for the combined sample, an average of five adults were reported to read to or with each target child.

Males were heavily involved in childrearing in these part-Hawaiian families. (It should be noted that we did not ask for amount of time spent doing these roles, nor or an estimate of whether they were done alone or as an assistant.) In contrast to caretaking and sports, the two education-related roles were dominated by females in both urban and rural samples; 65% of those teaching and reading were female.

When looking at only those network members rated by mothers as performing the role most often (persons given ranking of "1" during the role interview), differences between the urban and rural samples begin to emerge. For example, in the urban sample, 83% of the primary caretakers were women, in contrast to only 56% in the rural sample. A similar pattern of extensive female involvement existed in the urban sample for reading and school skills, and to a lesser extent for sports 84%, 89%, and 65%, respectively). For the rural sample, the comparable figures are 61%, 56%, and 46%, respectively. Hence, the men in the rural sample were more actively involved in the four roles we studied than were their urban counterparts.

In the urban sample, network members other than the mother most likely to have received a rating of "1" were the mother's sisters. In addition to mothers and their sisters, network members receiving a "1" in the rural sample were likely to include fathers, maternal uncles, and paternal aunts and uncles.

COMPARISON OF DIARY AND INTERVIEW METHOD

Ease of Administration

The interview was relatively easy for the mothers to complete. It was done on an individual basis, one mother with two interviewers. One interviewer asked the questions, while the other recorded the mother's responses. Mothers seemed relaxed and interested in the data that were being collected. They made sure names were spelled correctly and enjoyed puzzling over the genealogical connections of various members of the network.

The diary method proved easy and motivating for mothers in spite of the fact

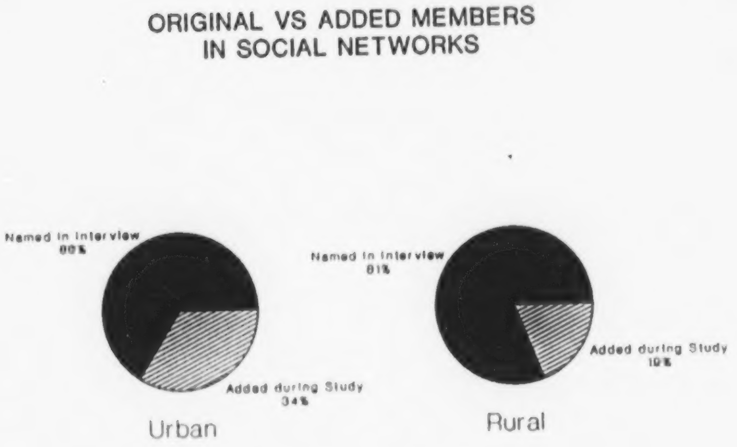

Figure 3.3. Original vs. Added Members in Social Networks

that it extended over a 4-week period. The main innovative features of the diary method (described in the Method section) were that: (a) the informant's task was made easy through the use of stickers (there were pretyped stickers for every network member) organized by household and attached to the weekly chart; (b) the task was made pleasant through the use of attractive, colorful materials; and (c) the target child was involved in the procedure by helping the adult put the stickers on the calendar board (there were several reports of children urging parents to work on the calendar when their parents delayed doing so in the evening).

The feasibility of the diary method was supported by the fact that the families kept these daily records for a period of 4 weeks. Only one mother did not keep a record for one of the 4 weeks, and that was because the child became ill. Also, the number of contacts and specific names varied from day to day, suggesting that mothers were recording each day's contacts separately.

Comparison of Results From Interview and Diary

The social networks of this sample of children were very large, averaging 86 individuals per network. At the initial interview, mothers reported an average of 75% of the people who eventually composed the total networks. Mothers named 1,303 people at the interview and added 423 new people during the 4-week period. Figure 3.3 presents the proportion of network members listed initially and those added during the diary keeping for each of the two samples. The rural sample listed 81% of their total networks during the initial interview, whereas the urban sample estimated about 66% of their total networks.

The difference between the initial network and the total network prompted us

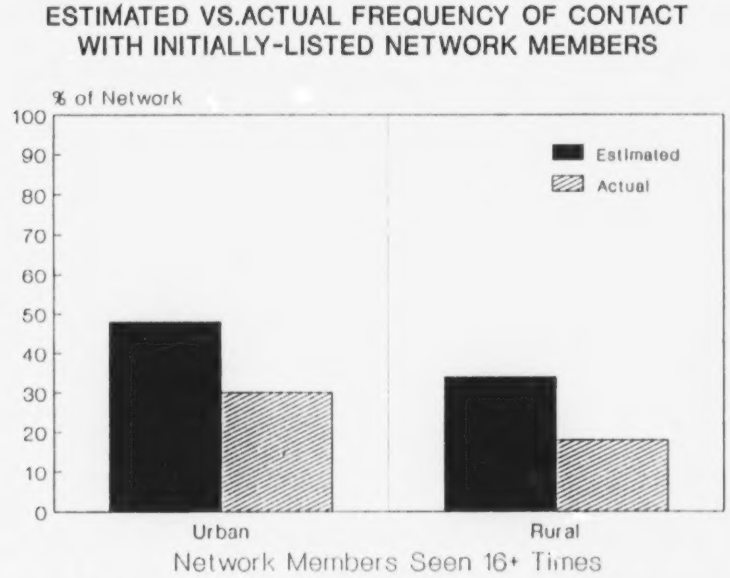

Figure 3.4. Estimated vs. Actual Frequency of Contact with Initially Listed Network Members

to examine the demographic characteristics of those members who were initially reported versus those who were added. Among the added network members, there were slightly more females than males (53% versus 47%), more nonrelatives than relatives (66% versus 34%), and more individuals who were linked to the child through the mother than the father (43% versus 11%). Individuals of the parents' and child's generation were added more often than were older people (grandparents' generation and above). It is important to note that the added people were actually seen very infrequently over the 4 weeks. None was seen every day and 66% were seen two or fewer times during the month. Overall, it appears that the added members of the network were of two types: (a) clusters of people who were encountered unexpectedly (e.g., at a baby shower; while visiting relatives on a neighbor island), and (b) adult nonrelative acquaintances of the mother.

We also examined the accuracy of initially reported estimates of contact frequency. For this comparison, frequent contact was defined as 16 or more contacts over a 28-day period (roughly 4 or more contacts each week). The estimated and actual frequency of contact is compared on Figure 3.4 only for those individuals listed on the initial networks. During the initial interview, mothers estimated that approximately 41% of the initially listed persons were seen four or more times per week. Actual diary records indicated that 25% of the initially listed network were seen that frequently. Urban and rural samples overestimated the proportion of the initial network that had frequent contact by 16%–17%.

In summary, network members who were listed in the initial interview were the more constant, active members. The added persons appeared to be more peripheral persons who were seen less often. Thus, mothers were pretty accurate at listing the core network members during the initial interview. However, mothers tended to overestimate the proportion of the network that saw the child frequently (4 or more times a week). If a complete record of all the people in the child's network and how often they are seen is needed, the diary method is the preferred route. If an approximation, focusing on who are likely to be the most salient members, is all that is desired, the interview may be sufficient.

SUMMARY

Since we began this study in 1986, research on children's social networks has increased dramatically, from the single chapter by Lewis, Feiring, and Kotsonis (1984) to an entire book devoted exclusively to child and adolescent networks (Salzinger, Hammer, & Antrobus, 1988). Current work, however, remains unidimensional for the most part, focused on USA children of European descent from middle-class, two-parent homes; a cross-cultural perspective has been lacking. Indeed, an intracultural perspective has been lacking. Data provided from these 20 part-Hawaiian families can address that imbalance and broaden the knowledge base for further study of this interesting topic.

The information provided by these families presents a fascinating glimpse into a social world for part-Hawaiian children remarkably different from their mainland USA counterparts. The numbers of people included in the children's social networks and their frequency of contact are much higher than are reported in other network studies. While it is true that a consistent picture of the size and interactive frequency of social networks for mainland preschool children is difficult to obtain because of the variety of methods used, the networks of part-Hawaiian children exceed the highest limits suggested by any study of mainland children.

These part-Hawaiian children spent their days in active preschool classrooms that contained 16–20 children and two teachers; both classrooms were located on elementary school sites were children also encountered older children, lunchroom workers, and other teachers and administrators. None of those people were counted in our measure of the child's social networks. Outside their classes, the children interacted with many people, from 10 to 50 per day on average. The child who interacted with 50 people a day on average lived in an apartment complex with apartments opening onto a central courtyard. In the warm Hawaiian weather, she made "rounds" every day after school, greeting all the residents and their various visitors during the afternoon and early evening. Households in Hawaii tend to be open and loose, with easy access by friends and kin; clusters of people are found in the house and immediately outside, with the outside being as much a part of daily living as the indoors.

Four-year-old part-Hawaiian children not only encounter many people, they encounter many people who know them well—relatives, long-standing friends of the family (calabash) and neighbors. Children function in a relatively safe, informal, large, warm network of people who are very familiar, and whom the children will see often, but not every day. What is the effect of interacting with so many familiar people? In terms of language competencies, a number of consequences seem plausible: (a) with so many people around, extended conversations with an adult would seem to be less likely; (b) the familiarity of the audience means that much of the speech can rest on implicit assumptions so that children can get by with a gesture or a partial reference to a shared history instead of making their communications clear and explicit; and (c) the opportunity presented by a stranger for learning to be clearly communicative would be missed as there are many people in the network to speak for the child in novel situations.

There is no question that part-Hawaiian children enter kindergarten testing in the lowest percentiles for vocabulary attainment (Heath & Plett, 1988). Developing a standard school-like vocabulary may depend on the very factors that have been described above, but in reverse: extended dialogues with adults, the opportunity to speak to novel individuals and to practice talking about things with which a listener is unfamiliar.

It is possible to imagine that there could be a large number of people surrounding the child but few with actual responsibilities so that the child relates to a much smaller group of people. That possibility was not realized in this study. Many of the people the child saw over the 4 weeks were accepted by the children's parents as having active roles with the children; they took the children places, took care of them, taught them skills, and read to them. This is truly "role diffusion," and it is important to note that much of what is supposed to be known about parent–child interactions and the effects of families and development is derived from a culture with role concentration.

Three things are of further note. First, males in Hawaii played a very active role. We do not have comparable data on mainland U.S. children, though it is likely men do not have as extensive a presence on the mainland. Second, educational roles were considered the province of the women, especially for the urban sample. Men showed up in caregiving and in sports, hobbies and outings; they did not show up as much in teaching school-like skills and book reading. When those roles were accomplished, it was women—mothers, elder siblings, aunties, and female cousins—who carried them out. One of the issues to consider is the association these young preschoolers may be making to school work. Third, the differences in role allocation between the urban and rural families suggests that living in a city may change the way part-Hawaiian families traditionally function. It is our assumption that the families on Hawaiian homestead land were more representative of Hawaiian culture than the ones living in Oahu. If we are correct, then it appears that urban living exerts the same effects on Hawaiian families as it does on the mainland: a greater number of female-headed households, a greater connection to maternal relatives, a generally decreased presence of males, and a much diminished role for the male in the child's social network.

It is a fascinating to think about how preschool could fit into this busy and full social context. The notion of a preschool as a socializer for children before attending public school does not seem appropriate. These children do not need to meet *more* people; they may need the chance to interact on an extended basis with *fewer* people, preferably adults or better skilled language partners. Neither preschool nor public school classrooms will be organized in a way that complements the social structure with which the child is experienced. Part-Hawaiian children interact with a large number of children of various ages during the day; a classroom of same-aged peers will have no obvious means of establishing rank and order. It is likely that time will have to be spent developing and experimenting with the social order during the first months of classroom life. Moreover, in a classroom, one adult, or at the most two, is in charge, and power is concentrated instead of diffused, a situation with which the part-Hawaiian children will be unfamiliar. The Kamehameha Early Education Program (Au, 1980; Tharp, et al., 1984; Farran, 1988) has spent years attempting to make elementary school classrooms more culturally compatible; as preschools are introduced, they will likely require the same effort.

Finally, we would like to comment on our work as a methodological study. A more general contribution of this study is the information yielded about the comparison between an eliciting interview and diary record keeping for determining children's social networks. It is fairly certain that studies that rely on an interview format will underestimate the numbers in children's social networks by about 30% and will overestimate the frequency of contact by about 15%–20%. Some mothers were better informants than others, so there is individual variation in these under and over estimates. The underestimation in numbers may not matter to many investigators; precision was obtained by including a lot of people who were truly peripheral to the child and thus not remembered by mothers during the interview. These people were part of the child's network but not in the active core. The overestimation in frequency of contact may be more important; it is probable that, if investigators want to know how active the network is, a diary method is the only solution. If the diary method is chosen, others may want to consider the sticker system we used.

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Chapter 4

Unpackaging Cultural Effects on Classroom Learning: Hawaiian Peer Assistance and Child-Generated Activity*†

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INTRODUCTION

Some American minority groups encounter difficulties in the public schools (Howard & Scott, 1981; Ogbu, 1981; Spindler, 1982). The reasons for this have been hotly debated for decades (Cazden, John, & Hymes, 1972). In recent years, the debate has narrowed somewhat (Cazden, 1985). What has emerged is a general consensus that attributes differential minority achievement to discontinuities of natal and school cultures, rather than child deficits (Erickson, 1984;

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Jordan, 1985; Ogbu, 1982). The emergence of the cultural discontinuity hypothesis as an alternative to deficit theories was an altogether salutary development, and one in which the authors of this chapter enthusiastically participated.

However, a serious problem remains. Cultural explanations of differential minority achievement can "all too easily become the basis for creating stereotypes and for misjudging the complexity of learning problems" (Fillmore, 1981, p. 24).

> Both the culture of the students and the culture of the school are important in understanding the educational experience of an individual or a group. Nevertheless, a focus on cultural identity may lead to inaccurate interpretations, and stereotyped educational recommendations may then develop. (MacGroarty, 1986, p. 304)

Ogbu and Matute-Bianci (1986) caution strongly against identifying individuals in broad cultural terms for fear of "*restricting expectations of academic performance to a generalized analytical category*" (1986, p. 131; emphasis in original).

It is ironic that a stereotyping dilemma has emerged from cultural explanations which themselves arose in response to negative stereotypes. The dilemma arises because explanations of differential minority achievement *of individuals* have treated culture as shared and patterned custom at the *group level*.

Another way to state this: Culture is not a nominal variable to be equally attached to every child in the same way that age, height, or sex might be. Treating culture in this way assumes that all children in a culture group have common natal experiences. In many cases, they do not. *The assumption of homogeneity of experience of children within cultures is unwarranted* (Pelto & Pelto, 1978; Johnson, 1978; Romney, Weller, & Batchelder, 1986; Whiting & Whiting, 1975; Wallace, 1970). The method error that follows is to measure culture by assigning it as a *trait* or attribute to all children or parents in a group, thus assuming culture has uniform effects on every child.

An alternative view: Cultural analysis of differential achievement must have the capacity to move between data on individuals and particulars to summaries of shared patterns for behavior in the form of traits, beliefs, and customs. Shifting of levels of analysis is essential if cultural analyses are to be used to explain and ameliorate differential achievement of *individuals* within *culture groups*.

Shifting of analysis levels is possible if we construe *culture as the shaper of activity settings* or contexts for individual action, teaching and learning, and task competence (Cole, 1981, 1985; Wertsch, 1985; Wertsch, Minick, & Arns, 1984; Vygotsky, 1978; Weisner & Gallimore, 1985; Whiting, 1976). In this way, we can identify the ways in which culture specifically affects the learning of individual children at both home and school. Such a view is consistent with research showing associations across family subsistence base, cultural beliefs and values, the daily routines of children, and individual variations in cognitive development (Nerlove & Snipper, 1981; Rogoff, 1982).

A way to identify culture's effects on individuals involves the *unpackaging* of culture, to use Whiting's (1976) vivid term. Unpackaging culture includes identifying and observing at least these constituents (Weisner, 1984; Weisner & Gallimore, 1985):

1. The personnel present who teach and influence children; their availability in activities throughout the child's daily routine.
2. Cultural scripts for conduct commonly used by participants in teaching/learning contexts that arise in natal cultural and school settings.
3. The nature of tasks and activities in the daily routine and the frequency and distribution of their performance.
4. The cultural goals and motives of those present in the activity setting.

These constituent elements—personnel, tasks, scripts, and goals/motives—represent the instantiation of culture-level factors (the ecocultural niche of the family; Super & Harkness, 1980, 1982) at the individual and family level. These elements reflect evolved, adapted family responses to opportunities and constraints of the local niche. The elements define the activity settings in which teaching and learning take place and that elicit the child behaviors, skills, and cognitive operations with which educators are concerned (Tharp, Jordan, & O'Donnell, 1980).

Unpackaging culture to include these activity units of analysis helps deal with the stereotyping dilemma. It allows the conception and measurement of culture to be determined in part by how cultural features are to be *used* in analysis and explanation of differential minority achievement. For example, if we analyze the school *system* (its history as an institution, its own rules, norms, and customs), a view of culture as shared patterns for behavior at the group level would be essential. If culture is used to account for selected classroom features and individual learning patterns, an additional level of cultural analysis is required. For example, to study the impact of culture on individual classroom performance requires activity setting analysis, at home and school, of teaching styles, peer relations, implicit goals, and personnel available, among other kinds of analyses.

In this paper, we present Hawaiian-American cultural and classroom data that explore the perspective presented in this introduction. However, we did not start with this perspective. Our early data from Hawaiian-American families assumed cultural homogeneity and was used to argue from cultural data at the level of customs to classroom data at the level of individual learning: We now have home and family data at the level of activity, which we bring to bear on the problem of classroom learning.

A Case Study: Hawaiian Sibling Caretaking And Classroom Peer Teaching

Our Hawaiian cultural studies began in 1965 (Gallimore, Boggs, & Jordan, 1974; Gallimore & Howard, 1968; Gallimore, Tharp, & Speidel, 1978; Howard, 1974; Jordan, 1981a, 1985; Weisner & Gallimore, 1977; Weisner, 1982; Weisner, Gallimore, & Tharp, 1982; Weisner, 1986b). The work began at the height of the deficit-difference debate and proceeded from ethnographic and experimental studies of families (Gallimore, Boggs, & Jordan, 1974; Gallimore & Howard, 1968) to an extended program of educational research and development (Tharp & Gallimore, 1982, 1979). Among the lines of work was an attempt to create classroom practices that were accommodated to and compatible with Hawaiian culture (Jordan, 1985).

Initial classroom studies by our team indicated a low level of Hawaiian child attention to teachers and class work, and a high level of attention to peers (Gallimore, Boggs, & Jordan, 1974; MacDonald & Gallimore, 1971; Tharp & Gallimore, 1976). These attentional patterns were often classified by school personnel as disruptive and a product of low academic motivation.

Studies of Hawaiian family life suggested the orientation to peers might be a result of the extensive use of sibling caretaking by Hawaiian families. In fact, many child-rearing tasks were assigned by Hawaiian families to older siblings and cousins. In the course of child care, siblings had many occasions to teach the younger children, and often did so (Gallimore et al., 1974).

Since Hawaiian children were accustomed to learning from their siblings, we suggested this might be a reason for low attentiveness to teachers and high attention to classroom peers. Using these normative, culture-level generalizations, we proposed that greater use of peer teaching/learning might help Hawaiian children learn better by increasing classroom attentiveness and motivation, because we reasoned that peer teaching was somewhat analogous to sibling caretaking. At this point in the research, we left unstated the precise similarities between sibcare and peer teaching contexts that might support greater classroom attention, and we had no data on family variability in sibling caretaking in homes, nor on activity settings in homes that paralleled classroom learning contexts.

Subsequent efforts to incorporate peer teaching into classrooms suggested that it did contribute to significant gains in achievement of Hawaiian children (Sloggett, 1968; Gallimore et al., 1974; Gallimore, 1977; Gallimore et al., 1978; MacDonald & Gallimore, 1971; Jordan, 1981b, 1984).

Given these results, we proposed the following cultural interpretation: Sibcare is an ubiquitous aspect of Hawaiian child life; it reinforces habits of attending and orienting to siblings and other children rather than to adults. These habits can be generalized to the classroom by providing opportunities for peer teaching and learning. In traditional classrooms, these culture-based habits lead to problems; in classrooms using peer teaching, they produce better achievement.

Our interpretation assumed that peer centers assist Hawaiian children because they are similar to a teaching/learning style that is pervasive in the natal culture.

However plausible and appealing this argument is, it assumes sibcare to be an invariant experience of Hawaiian children. But is this true? If we look closely at the original database on Hawaiian sibcare and the shared management system, there were indications of some variation both in the practice of shared management and in parental endorsement of its use (Gallimore et al., 1974; Jordan, 1981a, 1985; Weisner, 1986b; Weisner et al., 1982). However, we had never fully examined the amount of variance in sibcare. We had always treated it as an invariant culture-level category and generalized it to individual child response to peer learning centers in the classroom. Were children's positive responses to the independent learning centers really shaped by a common experience of sibcare in the natal culture?

Observations of Sibcare in Natal Settings: Methods and Sample

To examine the variability question, we conducted observations and interviews in households whose children attended the KEEP research school (Kamehameha Early Education Project). From 1972 to 1979, the Kamehameha Early Education Project operated a kindergarten to third grade research and development school in urban Honolulu (Tharp, Jordan, Speidel, Au, Klein, Calkins, Sloat, & Gallimore, 1984; Tharp & Gallimore, 1979, 1982).[1] The goal of KEEP was the development of a reading program that was effective and accommodated to the culture and language of the children. A new cohort of kindergartners was selected each fall that represented the population at risk for underachievement. Seventy-five percent were randomly selected from lists provided by the state of Hawaii of families receiving public assistance.

It took 5 years of research and development to evolve an effective reading program (Tharp, 1982; Tharp & Gallimore, 1979, 1982). As a group, children taught with the KEEP program now achieve on standardized reading tests at or above national norms, while comparison groups continue to score well below average. Internal and external evaluations of the project are available (Gallimore, Tharp, Sloat, Klein, & Troy, 1982; Tharp, 1982; Calfee et al., 1981).[2]

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[1] As a result of the evaluation data, the project was concluded in 1980 and a continuing program (Kamehameha Elementary Education Program) was established as one of several educational efforts of The Kamehameha Schools/B.P. Bishop Estate. A major task of this program is the dissemination of the KEEP language arts program to public schools serving Native Hawaiians.

[2] Scores for each of the 56 families in the full interview sample were created for parental reports of sibcare practices, attitudes regarding the consequences of sibcare, and socioeconomic status measures (income, education, and occupation and work roles). We also examined the number of hours parents are available in the home with not at work, and the sharing of other domestic tasks by the mother with her mate, children, and other relatives.

For the observation study, eight KEEP children were selected, one boy and one girl from each of the four classrooms at the KEEP school (kindergarten to third grade). Boys and girls were randomly selected from those living in or near low-income housing areas nearby, from which most of the children in the school come.

To assess the degree of variability across families and in individual child experience, seven of the eight children were observed at home 20 times each (one child moved away after 16 visits). We assessed the frequency and incidence of sibling caretaking observed during the after-school afternoon period. We chose this period because nearly all children went home or to their neighborhood setting during this time of the day, and observations were least obtrusive at this time.

Visits to the eight households either were done early in the afternoon (about 3:00 to 3:45) or later in the afternoon (about 3:45 to 4:30). The 20 visits made to each family were randomized and counterbalanced by household, time of visit (early or late afternoon), and by the two field workers doing the observations. Reliability of the field observations was established before and during field work. Overall percent agreement among items was 76.3; all major variables of interest, such as sibcare data, were over 80%.[3]

Immediately upon locating the KEEP child, the observer completed a "spot observation" procedure (Rogoff, 1978). This observational technique uses an event sample of the social and physical context and activities before the observer has been noticed by the children or adults in the setting—and thus before there is any chance of a reactivity effect. Repeating a spot observation procedure at each visit essentially provides a time sampling of characteristic settings and activities. In addition, data on the social context around the child, the child's activities, and teaching, learning, and language data were all obtained using either ratings or field notes during approximately 20 minutes of field observation, following the initial spot observation. Some questions about the child's perception of these activities and a brief talk with the mother concluded each field visit.[4]

Frequency of Sibling Caretaking

What picture of sibcare emerges from the observation study, using an activity setting unit of analysis? Is sibcare a pervasive experience in the everyday life of

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[3] Visits to the eights households in the observational sample were done early in the afternoon (about 3:00 to 3:45) or later in the afternoon (about 3:45 to 4:30). The 20 visits made to each family were randomized and counterbalanced by household, by time of visit (early or late afternoon), and by the two fieldworkers doing the observations. Immediately upon locating the KEEP child the observer completed a "spot observation" procedure (Rogoff, 1978). These procedures and the child interviews which accompanied them are reported in Weisner, Gallimore, and Tharp (1982).

In addition to this initial "snapshot" of the child and his or her setting, data on the social context around the child, the child's activities, and teaching, learning, and language data were all obtained during approximately 20 minutes of additional field observation following the initial spot

Hawaiian children? Is it so much a part of the daily routine that it could affect school adaptation? Observers' judgments of caretaking were based on carefully prepared criteria: (a) clear indicators of cultural expectations of caretaking in the social situation (such as parents' directives or children's statements); (b) direct observation of nurturance or assistance; (c) clear signs of responsibility for another child (e.g., warning a child concerning danger); (d) helping a child do a chore or task; and (e) requests for compliance followed by an indication that another child complied or recognized the appropriateness of the request.

There were 154 observations of eight families completed with usable sibcare data. There were 47 (30.5%) observations during which the target children (TC) were judged to be in the care of no one. During an additional 46.8% of the sessions, TCs were judged to be in the care of their mother or (in two cases) their fathers. An older sibling was judged to be the major caretaker of TC in the remaining 29.5% (N = 35) of the observations. In 18 of the observations where the TC was judged to be a caretaker of another child, 7 occurred during the same field visit in which the TC him or herself was in the care of a sibling. Thus, the number of independent field visits where sibcare was observed one or more times was (53 – 7) or 46, representing 29.5% of all observation visits. (The total over 100% is due to multiple occurrences.)

However, in many situations, sibling caretaking could not have occurred because of the presence or absence of others. For instance, in 41.9% of the spot observations, the child was not with a sibling, and/or the mother was present with the child in the room (in which case, we assumed joint or mother care was occurring and did not code for independent sibcare). If we examine only those contexts in which sibcare *could* have occurred (i.e., where one or more sibs were present and the mother was not in the immediate setting), sibcare was observed 48.9% of those occasions.

Figures for frequency of sibcare underestimated the amount of shared caretaking in which adults (usually mothers) and siblings worked together in the care of children. When mothers and children were together, there was a suppression of the cues used as criteria for judging sibcare to have occurred. Of the 11.7% of observations when mother and two or more children were present together, some probably involved shared caretaking by mother and older

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observation. Some questions about the child's own perception of his or her activities, and a brief talk with the parents if present concluded each field visit.

Another sample of KEEP families, not among the eight households in the study, was used for training and reliability purposes. Repeated parallel observations at these practice households were used to established field procedures, definitions, and reliability. The two observers had to be in exact agreement for all present/absent or categorical judgments, and within one scaled value for other rated scores such as social context (people present, activities, etc.) judgments of language use, caretaking, information exchange, etc. Observations did not begin on the target sample until 70% or better agreement was obtained. After every 10 field visits, another parallel visit to a practice household was done for purposes of recalibration and assessment of reliability. Overall percentage agreement was 76.3 All major variables of interest, such as sibcare data, were over 80%.

siblings, but these went unrecorded due to our conservative procedure for judging the occurrence of sibcare.

Statistical Variability in Frequency of Sibling Caretaking

To compare the families, a series of one-way analyses of variance were run across the eight children's families, pooling all observations for each case. Dependent measures of sibcare included: (a) observations where the child was judged to be caring for another child, (b) instances where the child was judged to be in the care of another child, (c) the number of children being cared for (if child was a caretaker), and (d) a combined total for both caring for other children or being cared for by other children. All of the ANOVAS produced statistically significant results ($p < .001$). This means there are significant differences in the exposure of these children to sibling caretaking across the eight families; homogeneous cultural patterning does not extend to between-family differences.

However, ANOVA assumes homogeneity of variance of the samples to which the test is applied. A second statistical test (Fmax) suggests, in this case, that this assumption is not met. This second test asks a similar question within each of the repeated visits to each home: (a) Do children tend to have a homogeneous experience of child caretaking during their afternoons; (b) are children who are frequently involved in sibcare also *regularly* involved in it across the 20 afternoon visits; and (c) are children who are seldom involved in sibcare consistently not involved? This test in effect asks whether the observation of a commonly used cultural practice implies homogeneity in the individual experience of sibcare for children.

The variance across the 20 observations for each child (16 for one child) was computed, and the ratio of the largest to the smallest variance estimate (Fmax) was calculated. Every one of these F values was significant ($p < .001$). Thus, the children varied significantly in their own experiences across our repeated visits.

As a final indication of the variability across individuals and families in the observational data, we examined the homogeneity of each substantive measure of child language and social context that we assessed during our home observations. For example, we measured the use of standard English among the children within various dyads (mother–child, girl–boy, etc.), and we recorded the activities in which the children were engaged (such as physical games, school work, etc.). For each of 38 of these measures, we tested for heterogeneity of variance within each child (within subjects) and across the eight children (between subjects) over our 20 home visits. Results showed 31 of 38 measures (81.5%) were heterogeneous both within individuals and across families. The seven nonheterogenous variables showed no particular pattern; language and social-interactional variables were equally likely to show both individual- and family-level heterogeneity.

Caretaking Contexts and Variability

The farther target children were from their homes, the more sibcare was noted by the observers. If the children were within a block of home, they were watched by other children two out of three observations. If the target children were over a block away from home, in two out of three observations, they were their own caretakers. This is because older children roamed further from their homes, were more often away from their mothers, and were more often caretakers of others rather than the responsibility of others. Younger children were less often responsible for other children but were seldom left alone, since older children took care of them.

Five out of our eight target children *never* cared for a younger child, yet every one of the TCs was being cared for *by* another child at least once, and in many cases a substantial portion of the time. We believe this is due to the age at which sibcare responsibilities are most pronounced, roughly between 9 years to about 14 or 15. This puts the older target children in our sample (8 and 9 years old) at the very beginning of their assumption of the sibcare rule. It is possible that younger children are more often given child care responsibilities in conjunction with parental care, or as a shared activity with parents during evening and weekend periods around the home. The mid-afternoon period may not be the time in the daily cycle when child care by younger children is likely to occur.

These data reflect the process of transformation in child care responsibility and independence that occurs between ages 5 and 11 or 12. The children gradually shift (a) from being nearer home and cared for by other children or their mothers, (b) to a period when they sometimes care for others and are also sometimes cared for by older children, and (c) to a final stage when they are farther from home, more independent of their mothers, and more often caring for other children. Since the target children in our study are in the early and middle stages of this gradual transition, we observed more instances of other children caring for the target child than situations in which the TC was acting as a child caretaker.

The ages of these children also limited our opportunity to observe infant care and care of younger, toddler-age children. There were relatively few children present with infants and young children during our observations separate from mothers. Thus, the range of styles and contexts for child care is greater than observed in our study due to our focus on children in the lower primary grades during afternoon periods.

Summary of Observation Study

We can summarize the observational data on the frequency, incidence, and contextual variability in sibcare as follows:

1. Sibling caretaking is fairly frequent among urban Hawaiian children. It

was observed nearly a third of the time during the mid-afternoon period; and in those settings where two or more siblings were present together, observers judged that caretaking occurred nearly half of the time.

2. These estimates are conservative, since shared caretaking with mothers present is underrepresented, and these children are not at the ages when we believe most sibcare occurs. Infant and toddler care is also underrepresented.
3. There is a gradual shift from children who are not caretakers themselves but are cared for by other children (ages 5–7) to a later period when many children experience *both* roles (8–9 and older).
4. Older children are farther from their homes and away from their mothers more often, and thus are recorded as involved in sibcare more often.
5. Individual differences in exposure to these facilitative conditions varied widely in our sample of eight children and 20 visits per child; and so, therefore, did individual differences in the children's direct exposure to sibcare.
6. Individual children vary widely in their direct exposure to sibcare, either as caretaker or someone in charge. However, all children are likely to be around peer groups where sibcare occurs and to have friends or cousins who are involved in sibcare. It is a pattern familiar to all children.

Our results at this point are complex and somewhat paradoxical for the hypothesized connections between Hawaiian sibcare and peer learning centers in classrooms. Shared caretaking is both situationally variable and unpredictable in incidence—and also a widely available cultural script for conduct among these families. These results led us to undertake additional data collection and further analyses of peer interaction and parental attitudes about the practice of child caretaking.

The issues: Observed variability in practice could be due to familial differences in demography (such as numbers or availability of children and other caretakers), or to the family's socioeconomic status and subsistence patterns (income, education of parents, or mothers working, for instance). If so, cultural patterns are merely modified by situational exigencies in families' lives. On the other hand, parents' beliefs and attitudes about shared caretaking and peer relationships may, nonetheless, be very consistent and homogeneous—thereby showing a widely shared cultural pattern regardless of variability in practice.

As the data presented next suggest, however, neither of these alternatives seems true: Demography and socioeconomic status did not appear to substantially influence the practice of or beliefs about sibling care; and parents' beliefs and attitudes about the practice proved to be as heterogeneous and ambivalent as the observational data suggested they might be.

Cultural Beliefs, Family Circumstances, and the Practice of Sibcare

To explore cultural beliefs and the circumstances of sibcare, we interviewed Hawaiian mothers about sibcare and their current domestic and socioeconomic circumstances. The interview sample consisted of 56 mothers of the children in KEEP school, Grades 2 and 3. The home interviews were conducted by staff members at the school, including one of the research staff who conducted the observations. Questions covered childrearing and sibcare, including tasks given to children and the parents' attitudes and beliefs about sibcare. We also asked a number of questions concerning domestic group and family ties, how parents teach and train their children, and parents' own experiences with sibling care when they were growing up. These data were compared to mother reports concerning the practice of sibcare in each family. Our analysis divided families at the median on socioeconomic and other variables, and then cross-tabulated these data by the reported use of sibcare, reported parental beliefs about the practice or its outcomes, and so on.

Large families (over six members) and mothers with a heavy workload (both outside employment and domestic tasks) were more likely to utilize sibling caretaking if they had available children of the appropriate ages. Families with no children of the appropriate ages in their households did not report sibcare and were unlikely to have arranged for it by bringing in children from other families (although this does often occur in Hawaii, it was rare in this sample). As in the observation study, if older children were not available in the home or immediate neighborhood for child care, sibcare seldom was practiced, according to parents' reports.

However, availability of children of the appropriate ages in the household had a mixed influence on parents' attitudes about the practice. We obtained a clearer picture of the effects of older child availability on parental attitudes by separating those 36 families where there were older children who were available for sibling care from the remaining 20 families where children were not available. (Even though some of these 20 families utilized occasional child care provided by nieces and nephews or half-siblings living in other households, they did not have *regularly available* child caretakers.)

If sheer availability determine attitudes to sibling care, the "sibs available" and "sibs unavailable" groups should look very different in their beliefs and attitudes about sibcare. In fact, there were no differences between the sibs available and sibs unavailable families in their overall attitude toward sibcare, including whether there are bad outcomes from its practice, whether it is too heavy a responsibility, and an overall attitude (see Table 4.1). In this sense, sibcare can be said to be a culturally endorsed practice, even by those who had no opportunity to practice it on a regular basis (at the time of the interview). In

Table 4.1. Parental Attitudes Toward Sibcare: Column Percent of Informants Reporting by Sibling Availability

	Not Available (N = 20)	Available (N = 36)	Totals (N = 56)	χ^2	p
Sibcare Outcomes					
No bad outcomes of sibcare	50	64	59		
Bad outcomes of sibcare noted	50	36	41	1.02,	ns
Mother's Evaluation of Sibcare					
Too heavy responsibility	40	39	39		
Opinions mixed	20	28	25	0.475,	ns
Sibcare is a good idea	40	33	36		
Mother's Attitude to Sibcare					
Unclear/ambivalent	24	33	30		
Negative	48	36	40	0.72,	ns
Positive	29	31	30		
Adult Teaching of Children	55	61	59		
No adult-child teaching noted					
Adult-child teaching noted	45	39	41	0.198,	ns
Sib Teaching	85	72	77		
Sibs teaching sibs noted	15	28	23	1.17,	ns
Sibcare Nurturance					
Mothers did not mention	80	50	61		
Mothers did mention	20	50	39	4.85,	$p < .03$
Sibling Conflict					
Sib conflict not noted	80	56	64		
Sib conflict noted	20	44	36	3.34,	$p < .07$

addition, parents with or without siblings available were equally likely to indicate that teaching and learning occurred in the context of joint caretaking (adult or sib-teaching items in Table 4.1). (In addition, only 41% of mothers overall mentioned adult-child teaching, and only 23% mentioned siblings.)

However, in response to other questions, those families with available sib caretakers did differ from those without sibs available. Families with available sib caretakers were more likely to report that *nurturance towards others* is an outcome of sibcare experience. They were also more likely to mention that there will be short-term conflicts or *troubles* between sibs. Practicing sibcare seems to lead to different beliefs about both its good results (it encourages nurturance) *and* bad ones (e.g., there are likely to be more troubles between sibs). Many parents had a mixed and ambivalent view of shared management of children by other children, along with a more widely shared expectation that it is a potentially usable form of child care, given the appropriate circumstances.

Some comments from the interview materials illustrate the ambivalence with which many parents spoke about sibcare. One parent said that sibling caretaking is good because it balances (for the older child) what otherwise would be the tyrannical influence of the younger child on the older. Another parent commented that, yes, sibling caretaking is useful and a good thing, but how much of it were we (the interviewers) talking about? If used too often by parents, it could indicate possible parental neglect of parents' own duties and can be carried too far in some families. Another parent said that it was important and useful, because the parent might die at any time and then the children would know what they need to know to carry on their own. Yet another mother said that sibcare is good, but only if the child responsible has already shown some special proclivity or interest in doing it. Several parents in large families said that it was very important because how *else* could one run a large family! It was important, in other words, for the whole family, not in and of itself.

These parent comments show that sibcare is not an emotionally charged institution associated with intense moral sanctions. It does, however, play a significant role in Hawaiian–American life and is an available child-care strategy. It is not an aspect of parenting that *must* be done or else risk serious derogatory comments from others. It does not seem to have the same degree of moral or ideological importance as would some religious, sexual, or political aspects of contemporary urban Hawaiian life, for example.

There was clearly a wide range of variation in beliefs and attitudes regarding the uses and consequences of sibling caretaking, along with shared agreement regarding its familiarity and use in Hawaiian-American families. The variability in beliefs was not a simple function of differences in parental experience with the practice, since families with and without children available for sibcare both recognized its importance. Parental experience led to increased reports about both positive and negative consequences and parental ambivalence.

Socioeconomic Status and Sibcare

We also examined socioeconomic differences among the families in the interview sample and their relationship to attitudes and practices regarding sibcare. SES measures include family income and parental occupations. To test for the effect of these features on sibcare, scores for each of the 56 families in the full interview sample were created, and Chi-square analyses were computed comparing three summary scores for parental reports of sibcare practices and attitudes regarding the consequences of sibcare to each SES measure. We also examined the number of hours parents were available in the home when not at work and the sharing of other domestic tasks by the mother with her mate, children, and other relatives. (The designation of those with "higher" occupations is relative to this sample only. Those families with stable blue-collar or clerical jobs were the "higher" group. The variance in SES is not great in our population by its very design.)

Our results indicate that, controlling for the availability of children for sibcare, income and SES measures were *not* predictive of how sibcare is culturally valued or understood, nor whether it is practiced. There were only 3 significant relationships out of a possible 21. Families with higher incomes made more mention and reported more use of direct adult teaching of their children, and families with a high occupational rank reported more nurturance and a more positive attitude towards the practice of sibcare. The dominant pattern, however, is that jobs, occupations, and incomes make little difference in the practice of or beliefs about sibcare for this population. Family size and demographics—such as we have shown for the availability of personnel for sibcare—and associated cultural beliefs about the practice were more influential in how and whether parents practiced sibcare.

Although the statistical analyses produced few strong differences due to SES, there were nonetheless percentage differences between certain groups that show interesting patterns. For instance, greater use of sibcare is associated with maternal employment. Fifty-four percent of employed or part-time employed mothers reported using sibs as caretakers, versus 35% of nonemployed mothers. However, most of these women worked only part time. Among this group, 54% reported some or all of their family income coming from welfare and other forms of social service supports in addition to some part-time work.

The proportion of our families with incomes over or under the median of $1,000 per month is the same for sibcare and nonsibcare groups. The marital status of the mothers, their positive or negative beliefs about sibcare, and their type of occupation (clerical or nonclerical level) are also unrelated to their use of sibcare. Maternal employment effects thus seem most plausibly related to differences in mothers' time in the home, rather than due to more income available or different orientations toward the use of children for domestic and other tasks on the part of the working mother.

Implications of Observation and Interview Studies

The picture of sibcare and shared management that emerges from our observations and interviews poses a fundamental challenge to earlier interpretations of the connection between sibcare and peer teaching at the KEEP school (e.g., Gallimore et al., 1978; Gallimore, 1977; Jordan, 1981a, 1984). In several earlier papers, we suggested that Hawaiian children responded well to peer teaching because of their pervasive experience with sibcare in the natal environment. We had reasoned that teaching/learning interactions with same-age peers was for this reason a familiar context (Tharp et al., 1980), which elicited attention and response from Hawaiian children (Gallimore et al., 1978; Gallimore, 1977).

Although it is a widely available and understood Hawaiian cultural mode of care, sibcare is not uniformly practiced by our observation sample families. Nor are parents' values and attitudes about the practice consistent with respect to its importance, its effects, and the reasons for its practice. Neither practices or beliefs and attitudes are the simple result of differences in availability/experience or demography and socioeconomic status of these families and parents.

What, if any, connection can we find between the natal culture and response of Hawaiian children to the peer learning centers? Is there any aspect of sibcare, peer relations, or other natal practices that could account for Hawaiian responsiveness to the independent learning centers and peer teachers? These questions required a close examination of the nature of child interactions and activity settings at home compared to peer teaching at school. To do this, we went back to the ethnographic data gathered during the home observation visits and searched for the activity settings in which the Hawaiian children *did* in fact display school-relevant skills such as, for example, children's language use or literacy-related activity. This time, however, we studied these regardless of whether or not the activities involved sibcare. We started with the school-related behaviors (such as language use, literacy events, and all forms of assistance or teaching) of children, and asked what activity settings in these children's homes appear to be supporting those behaviors?

Observation of Natal Activity Settings

The search for school-relevant (and transferable) natal skills involved locating home activities of children that might parallel classroom activities. We examined several possibilities, including children's language use, evidence of direct teaching or instruction in the home and community, and other evidence of literacy-related activity (such as reading, doing homework, etc.). We also took account of the personnel involved (adults, siblings, other children), as well as the tasks and interaction scripts present in the natal activity settings.

Our method was a mix of qualitative and inductive investigation of field notes and quantitative analyses of ratings of features such as language use.

Patterns of language use and dyadic interaction. We began with language data. The spot observations of eight children included, as well as frequency of sibcare, the occurrence of various kinds of adult–child and child–child interactions, including data on language use during child activities. Observers also made ratings of child activities and speech within kinds of dyads (mother–child, older boy–younger girl, etc.). The observations of language use and social interactions were established as reliable by parallel coding of families not in our study sample. The ratings represented a reasonably accurate if crude picture of the kinds of interaction and talk observed. These ratings of language

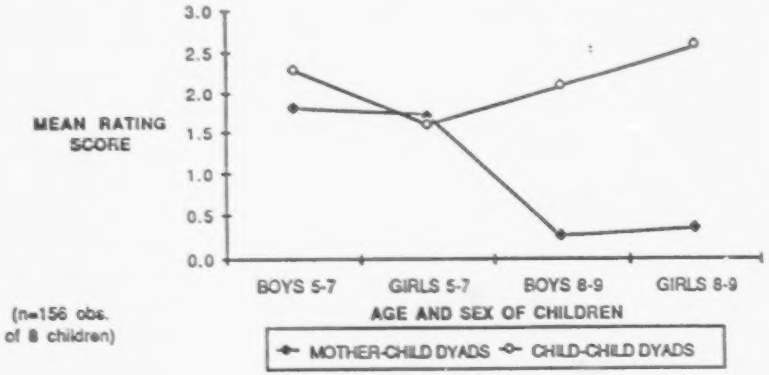

Figure 4.1. Overall talkativeness/volubility by dyad, age, and sex of child.

are rough estimates and cannot substitute for transcriptions of field recordings, which we did not collect. These data were also supplemented by ethnographic notes recorded at each of the 154 home visits.

A summary of the *quality* of talk and language interactions among these children indicated that the children were often involved in joint vigorous social activities that included talk, if needed. Otherwise, however, these children were seldom observed using language during their activities.

Talking about an activity depended on the kind of activity in which the child is involved. Sex, age, dyadic context, and activity setting all also influenced the use of language. However, *the occurrence of sibcare by itself was not associated with talk*. We searched through our quantitative observations and qualitative field notes for clues as to the activity settings associated with differential language use, beginning with the effect of mother–child versus child–child dyads.

Figure 4.1 presents the frequency of mothers' direct verbal interactions with children, which we call talkativeness. It was rated on a 4-point scale. Talkativeness *declined* from ages 5 to 9 years between mothers and children. At the same time, children's verbal exchanges with each other (child–child dyads) remained constant between younger and older ages. Mothers were observed in closer proximity to their younger children much more often (recall the earlier data on proximity to the home and sibcare). When mothers were with their younger children, they were more likely to be talking with them as compared to older children. Girls appear to talk with other children as well as with their mothers more often than boys.

We did similar analyses for two other summary measures of language use in the home environment: (a) the use of standard English (SE) in the interactions, and (b) the complexity of the sentences or phrases that were used. The three language measures were all significantly correlated with each other at beyond the .0001 level: (a) talkativeness and SE (.66), (b) talkativeness and complexity (.81), and (c) complexity and SE (.73). Both of the following measures show a pattern similar to that for talkativeness: Mothers were *less* likely to use standard English or complex sentences with their older children, and children with each other, were likely to do so at about the same rate as they got older.

Table 4.2 shows the language data by sex and age of the children. The trends shown in Figure 4.1 for talkativeness are statistically significant and hold for SE and complexity as well: Younger children were more talkative and used more SE and complex sentences than older children. In addition, girls showed more language facility in home activities than boys, both within child–child and mother–child dyads.

Contexts for teaching and learning activities: Adults and peers. To account for differences in patterns of language and teaching–learning interactions, we searched our field notes for all instances of these activities. The observers recorded such activities at each visit, since the field observation protocol specifically prompted the observer to include such data. Thus, the absence of information was unlikely to be a false negative; no information probably meant that these kinds of interactions did not occur.

Both teaching and school-related activities were observed fairly often during the home visits. Collections of books or educational materials were noted in most homes. Discussions among children or children and parents regarding school-related activity occurred in 17.9% of the observations.

Observers also indicated if "there were any attempts to duplicate or simulate school-related work, activities, situations, etc. by children". This occurred in 27.1% of the 156 protocols. Of these, half involved groups of children, and 38% involved the target child alone. *Only 12% involved any adult.*

Direct "teaching or skill/task-oriented information exchange" involving the target child was noted in fully 35% of the observations. Of these instances, only 17.5% involved parents or other adults; the remainder involved children with siblings or other children. Of these exchanges, verbal transfer was used about half the time (47%), and combinations of demonstration and mutual participation was the dominant technique used in the remaining interactions.

Both older and younger children were engaged in similar activities associated with language use. Examples include getting a toy airplane off a roof, asking about vehicles driving by or in the parking lot, asking others to identify people, eliciting names and the kinship classification of people walking by, talking about food, and debating game rules.

In the school-related information exchanges, children did homework, helped others with homework, read books and other materials, played counting games, and solved "school" and practical arithmetic problems (deciding how much

Table 4.2. Four Language Measures by Sex and Age of Children, Across 156 Observations

	Sex Differences				Age Differences (5–7 vs. 8–9)			
	χ^2	*df*	*p*	Direction	χ^2	*df*	*p*	*Direction*
Talkativeness/ volubility	15.00	3	.002	Boys *less* talkative	50.76	3	.0001	Younger children *more* talkative
Amount of Standard English	8.35	3	.04	Boys *less* SE at lowest level—none heard)	77.11	3	.0001	Younger children *more* SE
Complexity of sentences	10.25	3	.016	Boys *less* complex	48.34	3	.0001	Younger children *more* complex

candy could be purchased). Children occasionally requested assistance of parents and other adults in, for example, help in sounding out words, correcting spelling, and checking accuracy of computations. Parents and siblings sometimes initiated literacy- and numeracy-related conversations and activities. However, *none of these kinds of exchanges involving parents occurred with nearly the same frequency that peer interactions did.*

Examples of teaching/learning interactions taken from the observation notes show the nonsustained style of most adult–child interactions involving school work or teaching:

> Ipo (F6) found a notebook which fell out of her mother's purse and starts scribbling and writing in it. Mother: "You write your name? Write? You smart."
>
> Mother is helping older sister of Ipo with homework (math). Ipo and mother discuss KEEP work, and Ipo says, "I do her work sometimes, Mommy, I do her work." Mother does not comment further.
>
> Alohalani (F7) asks her mother to help her with saying some words. She is reading from a book. Mother pronounces these words and helps her to pronounce them. But she also ignores Alohalani during this session while talking to others in the room.

A great many of the teaching or information-exchange episodes occurred among children who were playing or hanging around the house. One child shows others how to do a chore, play a card game, comments on others' competence, or explains what something means. Some examples from our observation field notes give the flavor of these exchanges.

> Killikini asks what traffic bumps are that were built into the parking lot. "That is to cover up the street, because sometimes the cars just go boom, whoosh, braaaah."
>
> Mike asks mother if one of the keys on a key chain is a house key for a certain room. He asks again. Mother shrugs and does not reply. Mike leaves apartment, goes to 17th floor, uses key on the door, and it works. Child then returns to his own apartment and silently returns keys to mother.
>
> Mike is reading from a storybook and is having trouble with words. Asks mother for help. Mother reads word in a slightly irritated tone and then turns away; repeats with another word. Mother does not decode word or notice anything about the context of story, etc. Mike asks about the same word three times. Mother gets annoyed and criticizes child; child acts embarrassed, hesitant. Silence.
>
> An older sister posed an arithmetic problem for Noelani and instructed her to do it on her fingers. Noelani stood eagerly in front of her older sister and attempted to solve problem.

In summary, children were seldom observed to be individually directed and monitored by adults or by older siblings (whether acting as caretakers or not), and they are left considerable latitude in both what they do and how they do it.

Children were expected to adapt to a situation by observing and then to adopt competent performances without relying on verbal instruction and give-and-take. Children were not regularly treated as coequal interlocutors by parents, nor did adults and children engage in negotiations over whether or how to do tasks and activities. It was far more common for adults to create commentary frames rather than elicitation frames (cf. Heath, 1983; Ochs, 1982). Rationales and reasons were seldom used by Hawaiian adults, and children infrequently negotiated with adults concerning resources and activities.

However, our analysis suggests that peer assistance was important in these children's daily activities, and that *teaching and learning activities occurred most often in child-constructed contexts*. What stands out in the ethnographic data on activity settings in which language or literacy-related events occurred are child-initiated, child-managed, and child-driven contexts for behavior. Mothers were seldom involved in these situations. Although they were more likely to be involved in talking with younger children, these interactions were not "scaffolded."

Diffusion of literacy scripts in child-managed activity. As the data suggest, we observed few instances in which parents "taught" their children numeracy and literacy routines by what is called *scaffolding* (Greenfield, 1984; Ochs, 1982; Wertsch et al., 1984; Wood, Wood, & Middleton, 1978). Parents (or sibs) did not, in a multiple turn-taking context, routinely or frequently tailor their comments and assistance to the child's changing need for help in the solution of a problem or conduct of a task. These kinds of literacy- and numeracy-promoting activities and scripts were present but not pervasive in these Hawaiian households.

These data could be interpreted to mean that Hawaiian parents are indifferent to the school success of the children. In 20 years of research in Hawaii, we have heard that "explanation" used many times to account for why some native Hawaiian children do poorly in public schools. In fact, in the original ethnographic work (Gallimore et al., 1974), it was quite clear that Hawaiian parents highly value education. Most set a high school diploma as a minimum goal. Many hoped their children would attend college or post-high school training.

In the interview study, 30% of the parents reported working with their children on school-related skills and homework. Sixteen percent reported that sibs did similar things with the target children. Another 20% reported others (grandparents, aunts, friends of the family) worked on school skills such as reading, computation, and writing; sometimes this involved work sent home from KEEP, and in several instances it included church-related materials. Twenty-seven percent of the families described some kind of teaching technique or script, ranging from accounts that sounded like scaffolding to fairly simple modeling procedures. These data are not limited to perhaps overstated parents' reports. We have already reported home observations in which some kinds of teaching occurred or school-related activities were seen. We observed instances of school-related activities, such as children reading and doing homework and children and parents discussing the importance of doing homework.

How do we account for the disparity between the expressed values of Hawaiian parents and infrequent use of those teaching scripts that are so commonly observed in middle-class non-Hawaiian households (Heath, 1983; Ochs, 1982). We suggest the following perspective to be the most useful: The importance of education is widely diffused in the Hawaiian community. They often exhort their children to take school seriously. They place sanctions on children for poor grades and misconduct at school. However, what has not diffused as widely in this community is the use of schooling scripts that involve direct teaching of specific literacy and numeracy skills.

Summary of Activity Setting Observations

Overall, these observations reveal children who shape their own style of interaction, communication, and language use with parents, siblings, and peers. They have a great deal of influence over the sorts of interactions—verbal and otherwise—that occur in their daily routine. The children were inventive and vigorous in their play and in engaging other children in their activities. Almost without exception, language-mediated interactions emerged from, and were secondary to, activities the children were motivated to begin and sustain.

We have now located the activity settings (personnel, goals, motives, scripts for interaction, and tasks) in which language and literacy behaviors occur that might be related to classroom activity. They were *not* occurring in mother–child interactions, nor are they directly related to sibcare settings, although sibcare is clearly compatible with these. Rather, they involved child-generated tasks and largely child-assisted teaching and learning. *Our current cultural hypothesis, then, is that activity settings that have child-generated and assisted features (scripts requiring literacy-related behavior in child-generated activity) are the most likely candidates for accommodation in classrooms.* We turn, then, to an examination of classroom data on peer assistance and learning activity with these new findings in mind. Child-generated literacy and language activity, in the context of child-generated tasks in which parents do not actively intervene, appears to have specific analogues to peer assistance patterns in classrooms.

Comparison of Child-Generated Activities and Peer Teaching Interaction Styles in Classroom

At KEEP, peer teaching was and is encouraged in independent learning centers in which groups of three to seven children work together. Although the center work is teacher assigned, adult monitoring—as in the home—is often distal. So long as each child produces, *how* the peer group in a learning center manages the tasks is left to them. This provides the children with considerable latitude, just as in the natal setting (Tharp et al., 1984).

For example, although students are encouraged to help each other, no specific guidelines are enforced for helping behavior in the peer centers. As a result, there arises a phenomenon Jordan (1982) called *scanning*. She described two varieties: (a) children scan the classroom environment for a possible source of assistance when they encounter difficulty; and (b) they also scan their own center for indications that others need help, and many peer assistance sequences begin by one child volunteering help to another.

There is considerable shifting between the role of assisted and role of assistor. A study of peer learning at the KEEP research school indicated an act of peer assistance occurred every 3 minutes in kindergarten and every 2.5 minutes in first grade (Jordan, 1978). A wide range of peer assistance is provided, including modeling and direct intervention. For example, one or more children in a center may show a peer how to perform part of a task or physically help another child perform. "Error signal" is also frequently used—an often unsolicited statement that what another child is doing is incorrect, which is, in turn, frequently followed by an offer to assist.

The personnel available in peer learning centers are more restricted than any circumstances we observed in the natal environment. Although both sexes are present, the age range is more limited than at home, since the KEEP school operates standard "graded" classrooms. However, there is substantial variability in performance and achievement levels among children in the peer centers.

Tasks are assigned by the teacher, and skills are practiced in which children are not equally competent. With reciprocal aid, they can perform beyond the level at which each child could perform alone. This creates many opportunities for peer teaching, which somewhat compensates for the restricted age range. Nevertheless, in absolute terms, there is little similarity between the diversity of ages present at home and the narrow range in the classroom.

The tasks in the learning centers represent the range of contemporary educational practice. For example, on most days, the children will be asked to complete comprehension activities that are intended to reinforce what was done in teacher-directed small group reading lessons. The children are also likely to do word decoding and sight vocabulary work. Depending on the grade level, they might also work on dictionary skills, writing, and free-choice reading, among other activities.

At least some of these activities are present in the home environment. In fact, we sometimes observed that school papers were brought home from school and used as part of sibling group-created play activities. For example, in one family, the target child "played school" with older siblings and used KEEP workbooks to make the play more realistic. The children erased the pages already completed at school and then did them again. However, it is also the case that such overlap in activities between home and school was not of high frequency, and there was little overlap between tasks assigned by adults at home and the tasks in peer learning centers.

Thus, in terms of personnel present and types of activities, there is minimal similarity between home and the peer learning centers. The ages and diversity of available peer teachers are far more restricted than the natal environment; the emphasis on literacy activities is far greater in the peer centers, and the range of activities available is more restricted. More importantly, unlike the natal environment, the freedom to select, initiate, and modify activities is less in the KEEP centers. The only compelling similarities are the absence of direct adult regulation or scaffolding of performances and the opportunity for children to engage in shared activities, organized more or less to individual taste.

Thus, what is most similar between the two settings is the interaction script involving child-managed assistance in tasks that we observed so frequently at home. As at home, the learning centers provide an opportunity for the children to "creatively" use a context, relying on self-regulated and mutually regulated sequences of activity. Natal settings and the KEEP classrooms share in common the following elements:

1. Flexible access to other children of equal, greater, or lesser skill.
2. Influence over the sorts of interactions—verbal and otherwise—that occur in their daily routine.
3. Opportunities to actively explore the allowable range of activities permitted in both settings.
4. Opportunities to create and redesign their activities and respond to their self-generated changes.
5. Low levels of immediate adult direction and monitoring.

It appears to be the interactional flexibility of the peer centers that the children find culturally compatible, not the centers' isomorphic mirroring of natal activity settings or their similarity to sibling caretaking (either as cultural pattern or implemented family practice). The family child-care structure—including the use of sib caretakers—emphasizes the importance of the child's companion group rather than continuous mother monitoring and involvement. This, in turn, creates opportunities for child-directed and assisted activity, parallels of which make peer centers at school familiar and comfortable as activity settings for the children.

DISCUSSION AND CONCLUSIONS

Our data illustrate the value of "unpackaging" culture by study of activity settings. With this strategy, we can identify the *specific parallels and discontinuities between activity settings at home and at school*. In the present case, it appears we have identified an element of natal activity settings that constitutes a crucial form of classroom accommodation to cultural differences—provision of opportunities for Hawaiian children to engage in self-regulated joint work and interaction.

In broader terms, the findings support the argument for selective accommodation of instruction to culture (Jordan, 1985). Not all aspects of the classroom must be familiar to children, and not all aspects of the peer learning centers must be similar to natal contexts. Only a limited number of similarities between home and school were needed to permit the children to generalize to the classroom what they know and know how to do.

Unpackaging culture to identify selective accommodations is an alternative to the view that classrooms must reproduce an isomorphic representation of natal practices to resolve home/school discontinuities. In addition to the practical problems of an isomorphic solution to differential minority achievement, such a strategy would lead to segregation on an unimaginable scale. In the case of Hawaiians, it could lead to rigid teaching based on a stereotyped and romanticized vision of a happy, cooperative band of children willingly and happily working together for the collective and individual good. Such a stereotype is far better than the old one of the lazy, inattentive, and unmotivated natives, but it would still be a stereotype, with all that entails. Broadening and unpackaging culture to identify accommodations crucial to child learning offers hope of a middle ground between home/school isomorphism (the stereotyping dilemma and "re-segregation" described by Fillmore, Ogbu and Matute-Bianci, and MacGroarty) and neglect of cultural differences.

There is much appeal in this strategy. Schools are places to learn *new* skills and behaviors. What a child brings to school from the natal culture is a foundation on which to build. Culture is a tool of adaptation, not a straightjacket, nor case of custom. Culture can, but does not necessarily, prevent a child from adapting to an unfamiliar situation. Quite the opposite can be true: culture can aid adaptation to the unfamiliar by providing options to resolve discontinuities between home and classroom.

Similarly, the family is a powerful agent of proactive adaptation to the world through socialization of children—not merely a transmitter of a uniformitarian cultural pattern. Cultures and families are not handicaps that require dramatic reformation of schools. They can be sources of innovative ideas and solutions because they are the storehouse of adaptive solutions to ecocultural presses and imaginative uses of ecocultural resources (Weisner, 1986a).

To solve the problem of differential minority achievement is no simple matter. Schools require many changes in: social and political support, curricula, standards, quality of personnel, buildings, and materials (Gross & Gross, 1985). Our data cannot address the question of the *relative* importance of cultural accommodations compared to other essential reforms. The needed accommodations to culture may, in some cases, be fewer than are sometimes assumed in discussions of the cultural discontinuity hypothesis. For Hawaiians, and perhaps other minorities, our data suggest that subtle accommodations in classroom practice can produce significant gains in achievement. This does not mean that implementing accommodations into schools and classrooms is easy. Some accommodations are difficult to achieve because they require major changes in teacher training (Gallimore, Dalton, & Tharp, 1986; Schneider, Hyland, & Gallimore, 1985; Sloat, Tharp, & Gallimore, 1977). In this case, time-intensive coaching of teachers by trained consultants proved essential to implement culturally accommodated instructional practices.

In the development of accommodations, the necessities of the classroom and the skills to be taught limit what can be implemented—a fact so compelling in the case of KEEP that an evolutionary metaphor was used to describe the stages of development through which the sibcare/peer teaching and other accommodations proceeded (Tharp & Gallimore, 1979, 1982). Classroom modifications were made in response to student interest and performance, rather than isomorphism with natal culture practices. What remained at the end of the evolution was what worked, not what "looked" Hawaiian. The peer-teaching centers that survived this evolutionary process do have parallels with Hawaiian child-management structure, but they are not isomorphic. Given the need to accommodate both instructional necessity and Hawaiian culture, it thus makes sense that among the most successful developments was one based on a practice that is itself variably and flexibly used in the culture.

Our analysis of culture has remained deliberately limited. We have focused only on surface structure and values and overt behavior. In these, we found substantial variability. A complete cultural analysis obviously has many components that we have omitted. We have not dealt with the metaphors and cultural codes that structure and give meaning to life in an integrated cultural system. Analysis of broad cultural patterning in the form of traits, beliefs, and customs need not deteriorate into stereotyping. Applied to groups as a whole, such units of cultural analysis provide powerful tools for description and explanation. The danger arises when such units are applied to individuals or used to change classroom-level learning activity settings: What at the group level is a properly framed generalization can become a stereotype when applied to an individual or classroom. The way out of this "stereotyping dilemma" is to use a conception of culture and its effects which includes multiple levels of analysis including the level of activity settings.

There are integrated cultural patterns in Hawaiian families that are widely shared. The importance of children's peer companion groups is such a pattern; the engagement of children in collaborative tasks, including child care, is another such pattern. These are widely shared and understood by parents and children alike; and they are a part of still wider systems of moral codes, beliefs about the self, and about the importance of the extended family. Nothing in our data is inconsistent with the assumption that there is an "Hawaiian culture." It is not our aim to discount the role of culture, defined in these more general terms. Cultural analysis at this general level is necessary. It is not sufficient when the goal is creation of more effective and sensitive educational programs that are accommodated to the natal experiences of minority children. To achieve this goal, we need an understanding of how culture is variably instantiated at the activity setting level.

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Part II

The Educational Context of Development in the Home

Chapter 5

Development of the Home-Learning Environment Profile*

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INTRODUCTION

Research on the topic of home and family influence on educational achievement has been extensively reviewed by Scott-Jones (1984), Clarke-Stewart (1978), and Goodson and Hess (1978). Also, two recent anthologies (Laosa & Siegel, 1982; Leichter, 1974) provide good summaries of our state of knowledge in the field. Most of this research has employed intensive interview or observational methods to assess home and family variables. These methods, however useful for hypothesis generation and small-scale hypothesis testing, are too expensive, time consuming, and unstandardized to be feasibly employed in program development and evaluation. Of necessity, most studies of this type are based on small samples of convenience, often drawn from programs serving low-income or minority families such as Head Start.

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Our objective is to contribute to the development of programs that will improve the ultimate educational attainment of prekindergarten Hawaiian children. Although genetic, biological, and socioeconomic factors may be correlated with educational-performance levels, such variables are generally beyond the influence of people who design educational programs. We are attempting to develop valid and reliable measures of those tractable features of the home environment of Hawaiian families that are significantly correlated with the academic success of young children.

Contemporary *Hawaiian*[1] families, like American families generally, are changing to meet the demands of current economic and social forces, such as increased maternal employment and urbanization. Hawaiian families respond to these forces of social change in the context of their own unique historical-cultural values; their patterns of family roles; their status as an ethnic minority of indigenous people; a renaissance of pride in Hawaiian language, history, and culture; the reemergence of Hawaiians as a political force; and the changing perception of *Hawaiianness* by the rest of the ethnically mixed population of the State of Hawaii.

In one study (Heath & Plett, 1986), a multivariable quantitative model was developed to identify those neighborhoods with the largest number of Hawaiian children with the greatest need for early education services. Most prekindergarten Hawaiian children with special needs are concentrated in fewer than a dozen neighborhoods. A series of research summaries (Heath, 1987; Tibbetts & Heath, 1987) has compiled evidence suggesting that the dominant educational problem in the state, especially for ethnic-Hawaiian children, is low functional competence in the English language.

Thus, we have a reasonably sound foundation of demographic-social information about young Hawaiian children and their families. We know in which communities the largest number of Hawaiian children of greatest need are to be found. Further, we have a clear indication of the priority educational need of our target population. The literature provides us clues about the processes in the home that may be of educational advantage to these children, and we have the benefit of the previous work of others in their attempts to construct useful measurement devices. Successful preschool programs produce not only short-term, statistically significant effects on preschool and kindergarten test performance levels, but also enduring, long-term changes that continue to contribute to the educational success of children. To develop such a program, we must first identify those variables in the home environment that are tractable to program influence. Once identified, we must be able to assess these variables with a practical, reliable, and predictively valid instrument. It was our purpose to construct such an instrument.

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[1] Defined here as ethnic Polynesians, descendants of people living in the Hawaiian Islands prior to 1778, the date of the beginning of contact with the West. The term includes all those who self-identify as either Hawaiian or part-Hawaiian.

EXISTING INSTRUMENTS

There exists a sizable literature on the socio-demographic characteristics, culture, and home environments of Hawaiian families (Gallimore, Boggs, & Jordan, 1974; Howard, 1974; Jordan, D'Amato, & Joesting, 1981; Linnekin, 1985; Plett & Heath, 1987; Pukui, Haertig, & Lee, 1972). This literature provides no empirical evidence showing these characteristics are related to the educational achievement of Hawaiian children. To help develop and evaluate programs, we needed a reliable and valid instrument for assessing the learning environment in the homes of Hawaiian preschool-age children that would employ a structured interview or questionnaire format and require no more than 45 minutes to administer.

We first collected and reviewed published instruments for assessing educationally relevant characteristics of home environments. In addition to a review of recent journal articles, three major indexes of published instruments were searched for appropriate instruments. These indexes were *Tests and Measurements in Child Development: Handbook II* (Johnson, 1976), *Tests in Print, III* (Mitchell, 1983), and *The Ninth Mental Measurements Yearbook* (Mitchell, 1985). From this search, seven instruments were identified that purport to measure educational characteristics of the home environment. They are:(a) the Cognitive Home Environment Score (CHES), developed by Norma Radin; (b) the Deprivation Index, developed by Martin Deutsch, Martin Whiteman, and Estelle Peisach; (c) the Henderson Environmental Learning Process Scale (HELPS), developed by Ronald W. Henderson; (d) the Home Observation for Measurement of the Environment (HOME), developed by Bettye M. Caldwell and Robert H. Bradley (a birth-to-age-3 version and an age-3-to-6 version); (e) the first published version of the HOME, the Inventory of Home Stimulation-I (STIM), developed by Bettye M. Caldwell; (f) an adaptation of the HOME called the Home Screening Questionnaire (HSQ), developed by the John F. Kennedy Child Development Center; and (g) the Human or Material Environment Scale, developed by Jean Carew Watts, Itty Chan Barnetty, and Christine Halfar. These instruments were compared on administration mode, administration time, target age of children, reliability, validity, and norming samples. These features of the seven instruments are shown in Table 5.1.

The HOME (Caldwell & Bradley, 1984) has been widely used as a measure of the home-learning environments of young children. However, we recognized a

Table 5.1 Characteristics of Published Home Educational Environment Instruments

Title	Cognitive Home Environment Scale[1]	Deprivation Index[1]	Menderson Environmental Learning Process Scale[1]	Home Observation for Measurement of the Environment[2,3]	Home Observation for Measurement of the Environment, ages 3-6[2,3]	Home Screening Questionnaire[2]	Human or Material Environment Scale[1]
Author(s)	Norma Radin	Martin Deutsch, Martin Whiteman, and Estelle Peisach	Ronald W. Henderson	Bettye N. Caldwell and Robert N. Bradley	Bettye N. Caldwell and Robert N. Bradley	John F. Kennedy Child Development Center	Jean Carew Watts, Itty Chan Barnetty, and Christine Halfar
Child's Age	Preschool & Kindergarten	6–12	Preschool & Elementary	0–3	3–6	0–3, 3–6	1–3
Purpose	Measure degree of cognitive stimulation in home	Assess environmental factors related to scholastic performance	Measure characteristics of home environment related to intellectual and scholastic performance	Describe types of stimulation in home environment that foster cognitive development	Sample aspects of social, emotional, and cognitive support available to child and related to behavioral development	Identify high-risk infants due to deleterious home environments	Analysis of naturally occurring experiences

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Variable(s)	Educational materials in the home Grades expected Future expectations Educationally oriented activities Direct teaching	Environmental conditions: -economic conditions -parental motivation -parental interaction -activities with adults -previous schooling	Home Learning Environment: -aspiration level -range of stimulation -parental guidance/direct teaching -range of adult models (occupation/education) -nature of reinforcement models	Emotional & verbal responsivity of mother Acceptance of child's behavior Organization of physical and temporal environment Provision of appropriate play materials Maternal involvement with child Opportunities for variety in stimulation	Stimulation through toys, games, and reading materials Language stimulation Physical environment: safe, clean, and conducive to development Pride, affection and warmth Stimulation of academic behavior Modeling and encouragement of social maturity Variety of stimulation Physical punishment	Based on HOME) questions developed from items in HOME Toy inventory form HOME inventory	Child's behavior: -activity -type of experience -task mode -task level -task purpose -success Human environment: -initiation -person -encouragement -interaction -compliance -verbal Material environment: -room -restriction -object quality and size
Administration Mode	Semi-structured Questionnaire (25 items)	Structured interview	Structured interview Likert-type scale (55 items)	Observation/interview (45 items)	Observation/interview (55 items)	Parent-answered Questionnaire, Toy Checklist	Naturalistic observation
Time to administer			20 minutes	60 minutes	60 minutes	15–20 minutes	15 sec. obs/15 sec. recording per each 10 min protocol (7 # of protocols)

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Table 5.1 Characteristics of Published Home Educational Environment Instruments (*Continued*)

Reliability	Inter-rater reliability* .91		Cronbach Alpha* .71	Internal consistency* .89 (total score) Test retest* .62-.77 .	Internal consistency* .93 (total score) Test retest*. .05-.70	"reliability low', age 0-1*.62, ages 1-3*.82	Rater agreement *.67-.95
Validity	"Significantly correlated* with PPVT, Binet, Piagetian tasks	loaded on interactive factors & aspiration level correlated with SES	"Highly correlated' with SEAT Boeim Test of Basic Concepts	Moderate correlations with SES Correlation with 36 mo. Sinet = .72	Moderate relationship with 3 SES indices "A positive relationship" between total scores at age 3 and 5 and SRA Achievement Test scores between ages 6 and 10	Concurrent validity with HOME inventory .61	Able to differentiate between children developing above or below average at age 3
Normed on:	115 low income mothers	153 fifth graders, 127 first graders	Mothers of 1st graders: 66 lower class Mexican-American and 60 middle class Anglos	174 welfare and non-welfare mothers	117 families	Normed on low income but well educated group-blacks underrepresented	

[1] Indexed in *Tests and Measurements in Child Development: Hand II* (Johnson, 1976)
[2] Indexed in *The Ninth Mental Measurements Yearbook* (Mitchell, 1985)
[3] First published as the inventory of Home Stimulation (SIIM)

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number of drawbacks in using the HOME for our purposes. For example, administration requires a 1-hour observation/interview in the home with the mother. For this instrument, the child must be both present and awake. This mode of administration is costly. In addition, research conducted by Levin and associates (Levin & Brenner, 1987; Levin, Brenner, & McClellan, 1987) led us to reject the notion that a single 1-hour observation by a stranger is likely to provide either a representative or a reliable typification of a family's learning environment.

The meaning of many of the behaviors to be recorded on the HOME varies among cultures. For example, there is great cultural variability in the appropriateness of accepting praise of one's children or speaking highly of one's children with nonfamily members. People who find these inappropriate are unlikely to praise or caress a child in the presence of an interviewer. The HOME includes items such as:

> 30. Parent praises child's qualities twice during visit.
> 31. Parent caresses, kisses or cuddles child during visit.
> 32. Parent helps child demonstrate some achievement during visit. (Caldwell & Bradley, 1984, p. 106)

These parent behaviors, in the presence of formal visitors to the home, might be considered in bad taste in many families. To assume that the observed absence of such demonstrations has the same meaning in different cultural groups is seriously misleading. In the HOME, considerable weight is given to object counts. Using object counts as a measure of home-learning environment implies two assumptions. One assumption is that the objects are actually *used* for educational activities. The other assumption is that educational activities do not occur (or are less likely to occur) in the absence of these particular objects in the home. In the use of the HOME, the observer is instructed to document the presence of objects:

> 2. Child has three or more puzzles.
> 8. At least 10 books are visible in the apartment.
> 10. Family subscribes to at least one magazine.
> (Caldwell & Bradley, 1984, p. 106)

In our view, educational influence is not to be found in objects but rather in activities and experiences.

Another set of items in the HOME documents material aspects of the child's home:

> 21. Interior of apartment not dark or perceptually monotonous.
> 22. Neighborhood is aesthetically pleasing.

24. Rooms are not overcrowded with furniture.
(Caldwell & Bradley, 1984, p. 106)

These items, and those yielding object counts, appear to be more directly related to SES than to the learning environment in the home. Upon studying the results obtained in studies employing the HOME presented in Gottfried (1984), one might reasonably conclude that the HOME instrument is fundamentally a surrogate measure of SES. Though SES is clearly correlated with educational achievement, as developers of educational (rather than economic) programs, we are not likely to encourage parents to buy objects, change neighborhoods, or repair structural building defects as a means of enhancing their child's educational achievement.

The authors of the CHES (Radin & Epstein, 1975) compare this instrument with the HOME (when it was called STIM):

> Both the CHES and the STIM ask specific questions about maternal behavior.... Further, the CHES and STIM are based on similar assumptions concerning conditions which foster the cognitive development of the young child.... The CHES differs from the STIM, however, in that the STIM includes scores on observed behavior which the interviewer must be trained to collect. The CHES is administered entirely as a questionnaire and requires nothing of the person posing the questions except interviewing skills. (p. 2)

The CHES interview uses open-ended questions. The respondents' answers to questions are content analyzed and assigned point values following the interview. Administration costs and reliability problems associated with interviewer bias, variations in interviewer skills, and difficulties associated with content analysis as well as the partial reliance on object counts led us to reject the CHES for our needs.

The HELPS was developed:

> In an attempt to develop procedures that would be more practical [for use with large samples], and that might have the potential for discriminating environmental differences and similarities between and within socioeconomic and ethnic groups. The results of this investigation indicated that a questionnaire instrument could be devised that would circumvent the problems associated with the administration and scoring of focused interviews, and at the same time identify environmental process variables related to school achievement. (Henderson, Bergan, & Hurt, 1972, pp. 193–194)

Many of the questions in the HELPS are the same as, or quite similar to, those presented in the CHES; the primary difference being the use of Likert-type scales for recording the responses. The questionnaire mode of administration is more suited to our need to gather data on a large number of families.

There are a few items that rely on the presence of "educational" objects and a few that are culturally inappropriate for use with Hawaiian families. However, the major drawback of the instrument is that many of its questions are about family status variables and not about the child's experiences.

Although our review of existing instruments failed to discover a device that would serve our purposes of program development and formative evaluation, this review was of considerable value to us. It seems likely that, had others not already explored the use of object counts, unstructured interviews, brief observations of interactions, and the material characteristics of homes, we would have been drawn in those directions ourselves. By studying the instruments that have been developed in those pursuits and the results they have produced, we were able to identify more adequately the domains of content and assessment modalities needed in our own work.

METHODS

An Interdisciplinary Team

The Prekindergarten Education Program of the Center for Development of Early Education at Kamehameha Schools/Bernice Pauahi Bishop Estate has available to it a multidisciplinary staff of researchers and program developers. As it became apparent that the program needed an instrument to assess variables in the home environment that are correlated with school performance, a five-member team from this staff was formed. This instrument development team included: (a) an educational anthropologist, and (b) a former teacher/home visitor, both of whom conducted parent-interviews and observed activities in homes; (c) a social-psychologist/methodologist, who focused on the psychometric aspects of instrument development; (d) a researcher with social work background, who managed data collection and analysis; and (e) on a consultant basis, an educational psychologist who specialized in multidimensional scaling. All members of the team participated in defining domains of content, item writing, review of literature, and interpretation of results.

Though these varied disciplinary backgrounds brought different perspectives to each stage of the instrument-development process, it was the *interaction* of these perspectives rather than unique points of view that was most productive. For example, the content domains were derived from hours of discussion about the meaning of interviews and observations, the research literature, the characteristics of existing instruments, and the technical considerations required for a useful assessment device. Similarly, as items were written, pilot-tested, and rewritten, the group painstakingly argued over nuances of wording, the implications of pilot-test response patterns, and the cultural appropriateness of particular elements of content. Team members contributed suggestions and offered insights across disciplinary boundaries. Whatever defects or strengths may be found in the instrument as it now exists, we are convinced that it is much better than it would have been without this synthesis of professional experience.

Home-Learning Environment

From 1985 to 1987, several members of the team conducted research on the organization of teaching and learning activities within the homes of approximately 20 preschool-age Hawaiian children (Levin & Brenner, 1987; Levin et al., 1987). One part of this work was an attempt to catalog the materials in the home environment that seemed to promote literacy and familiarity with number concepts. After sorting through children's possessions and discussing with parents what they acquire for their children and why, these members concluded that object counts are useful but only for limited purposes.

We were able to discover whether literacy- and numeracy-associated objects were available in the home, the range and variety of these materials, and how they were acquired and stored. However, object counts are an inadequate device to assess children's experiences and familiarity with printed materials or other objects. In addition to collecting object inventories, we talked with and watched children and their families engage in teaching and learning activities. Putting these observations and discussions of *activities* with the object inventories, we came to see that a count of the *objects* in the home does not very effectively reveal the meaning of the activities or how often, when, and in what ways objects are used.

Our attempts to catalogue the printed materials in the home led us to reject simple numerical counts as accurate indicators of children's experience and familiarity with printed materials. Straightforward numerical counts may overestimate or underestimate the frequency of teaching and learning activities in the home. Numerical counts of printed materials may overestimate literacy activities in the home; literacy objects may be status markers rather than frequently used items. Good examples are the handsomely bound, but often unused, sets of encyclopedias or literary classics found in many homes.

A second problem with an object count is the likelihood of underestimation or misinterpretation of literacy activities. Our interview data illustrated these problems. When conducting an inventory of one child's belongings, we were cautioned by her mother, "But she hardly looks at these books anymore. The ones she looks at are at her grandma's." If we had not inquired, we might have underestimated the number of literacy objects available to this child and also mistakenly assumed the child's reading interest and ability to be much lower than they were. When children spend a good part of the day in the homes of relatives or family friends, a print count of the child's own home will misrepresent materials available to the child.

We were able to discover whether literacy- and numeracy-associated objects were available in the home, the range and variety of these materials, and how they were acquired and stored. However, object counts are an inadequate device to assess children's experiences and familiarity with printed materials or other objects. In addition to collecting object inventories, we talked with and watched children and their families engage in teaching and learning activities.

Object counts may also not catch the flow of books and other materials through the home. Books, along with other children's possessions, go through periodic parental purges. When families move, children's books, along with other household goods, may be put into storage. Also, some families make heavy use of the public library. While they may have only a small number of library books at any time, their children have access to perhaps hundreds of library books passing through the home in a year.

Domain Definition

At the beginning of the 1986–1987 school year, several team members interviewed approximately 60 parents at the preschool sites. One of the open-ended questions asked what their children liked to do at home. We used the summary of the answers to this question as well as our in-home interviews and observations of Hawaiian preschool-age children to help define the content of our first draft list of learning activities that preschool children might engage in at home.

Thus, when we began to identify the domains to be assessed, we rejected simple counts of objects on the physical characteristics of the home. We did include both the allocation of the child's time to activities we know to be common to most children and also included the frequency of a variety of home-learning experiences. These interviews and observation data also helped define the domain of parent opinions about children and led us to develop a section of the instrument which tapped the social context of typical activities within the home of preschool children.

To further identify the state of the art in the assessment of home-learning environments, one of the authors visited several major universities and a regional laboratory and interviewed professionals working in the field at two national conferences (AERA and NCME). These contacts served to bring us up to date on the current status of instrument-development efforts and on the reasoning underlying these efforts.

Our next effort was to integrate (a) findings from observations and interviews in homes, (b) findings from parent interviews at preschool sites, (c) reviews of the research literature on the relationships between home environment and school achievement, (d) reviews of existing instruments, and (e) interviews with other professionals working in the field.

The team first identified five domains of content to be included in a draft instrument. Next, the team had a series of meetings to explore various points of view on the meaning of the five domains and the types of assessment modalities that would be appropriate to each. The outcome of these meetings was the following definition of content domains and assessment modalities:

1. *How the child's time was allocated in the home among major activities:* A standard pair-comparison scaling technique would be used to assess how the child's time was distributed among a dozen or so major cognitive-related activities (excluding such universals as sleeping, eating, bathing, and so forth).
2. *Parents' preferences for how the child's time was allocated in the home:* A pair-comparison scaling technique would be used to assess the parents' preferences for the child's time allocation among these activities.
3. *The social context of the child's activities in the home:* Contingency (or branching) questions would be employed to assess the social context of three education achievement-related activities. For example, "Does your child look at books, newspapers, or magazines at home?" "If so, whom does your child do this with?"
4. *The frequency of a variety of learning experiences occurring in the home:* A frequency rating scale would be employed to assess the relative frequency of a variety of learning activities (playing cards, telling jokes, using workbooks, etc.).
5. *Parents' attitudes and beliefs about children's cognitive development and parents' roles in that development:* A Likert-style (four option) response mode would be used to assess parental attitudes.

Pilot and Field Testing

At the outset of our instrument development process, we made several decisions about the strategy we would use:

1. We would not attempt to name a set of scales and then write items to match these labels. Rather, we would identify, based on the literature and previously published instruments, a limited number of broadly defined content domains and then, based on professional review, pilot testing, statistical analysis, revision, and repilot testing, identify scales that emerged empirically.
2. We would then validate these scales by studying their correlation with three types of educational achievement test scores: verbal, quantitative, and psychomotor. Items or scales that did not correlate with achievement would be revised or discarded.
3. These cycles of writing, pilot testing, and revision would continue until a set of scales with demonstrated validity and reliability emerged from the data. Only then would we attempt to characterize the scales with titles.

4. The domains of content would *not* include object counts, physical attributes of the home, or status indicators.
5. The domains would focus on behavior, experiences, and beliefs in the family that we had some reason to predict were related to the school performance of the child and that were, at least conceivably, subject to program influence.
6. The instrument would not employ the idiosyncratic observations of a data collector or the subjective interpretation of responses to open-ended questions.

A first draft version of an instrument (Home-Learning Environment Profile) was prepared and circulated to 24 colleagues at the Center for Development of Early Education. Each reviewer was asked to comment on the instrument as a whole, to suggest changes in the questions and the directions, to point out omissions, and to propose deletions. The 24 coworkers included psychologists (child, clinical, educational, community, and psychometric), anthropologists, a social worker, a demographer, teachers, and other practitioners. About half of this group responded with written comments and suggestions. Others preferred to offer informal suggestions in personal conversations. Many useful suggestions and comments were elicited.

Based on a compilation of these reactions, and following a series of meetings to interpret and implement them, a second draft *Profile* was constructed. New instructions were written, many items were revised or deleted, and a new format was devised.

This second draft was then administered in a one-to-one interview mode to seven mothers of preschool-age children. These respondents not only were asked to respond to the questions but also were encouraged to comment on the readability of questions, the clarity of the directions, and any other sources of confusion or ambiguity. This pilot testing was completed in January 1987. Responses and comments from the pilot test formed the basis of an extensive revision that led to a third draft instrument. This version became the field test edition of the *Profile*.

In April 1987, the field test version was administered to the parents of 83 children enrolled in Kamehameha Schools' preschools. Over 90% of the children were of part-Hawaiian ethnicity. As in the pilot test, the instrument was administered in a one-to-one interview mode so that respondents' comments and suggestions for revision could be elicited comfortably.

A considerable amount of demographic and test data was available on the 83 children and their families (see Table 5.2). Responses to the *Profile* and these other data were entered into a common data bank. The test data include Fall and Spring scores for the preschoolers on the Peabody Picture Vocabulary Test-Revised, Form L (Dunn & Dunn, 1981), and the Circus (Educational Testing Service, 1976) tests of (a) Language Usage; (b) Language Understanding; (c)

Table 5.2 Demographic Characteristics of Field-Test Sample (N = 83)

	N	%
Child's gender		
Female	42	50.6
Male	41	49.4
Child's ethnicity		
Hawaiian/Part-Hawaiian	77	92.8
White	3	3.6
Other	3	3.6
Legal custody of child		
Both parents	61	73.5
Mother only	18	21.7
Father only	2	2.4
Other	2	2.4
Parents' marital status		
Single	18	21.7
Married	58	69.9
Divorced	3	3.6
Separated	3	3.6
Widowed	1	1.2
Mother's or mother substitute's employment status		
Full-time	19	22.9
Part-time	13	15.7
Temporary/Part-time	2	2.4
Unemployed[1]	46	55.4
Retired	2	2.4
No mother or substitute in home	1	1.2
Child's age		
Average months	58.9	
Parents' or parent substitutes' education (average years)		
Mother	12.3	
Father	12.7	

[1] Includes 45 women who described their occupation as *"housewife"*.

General Information; (d) Quantitative Concepts, and (e) Psycho-Motor Coordination. These scores were transformed into standardized variables (T-scores) and combined to yield three highly stable educational achievement variables: verbal, quantitative, and psychomotor. These served as dependent variables in subsequent analyses. Tables 5.3, 5.4, 5.5, and 5.6 show the correlation of each item on the *Profile*, and the rank order of that correlation, with each of the three dependent (achievement) variables.

Table 5.3 Correlation of Frequency of Home Learning Experiences with Types of Achievement Test

	Type of Test					
Home Learning Experience	Verbal		Quantitative		Psychomotor	
	Rank	*r*	Rank	*r*	Rank	*r*
Tell jokes or riddles to your child?	1	.33	1	.34	2	.17
Play ball with your child?	2	.30	2	.31	1	.19
Talk with your child about the colors of clothes while dressing?	3	.30	5	.23	3	.15
Tell stories to your child?	4	.29	7	.21	12	.09
Point out the shapes of things such as circles, triangles, and squares?	5	.27	9	.20	10	.09
Dance with your child or in your child's presence?	6	.27	4	.24	15	.08
Read or look at books, magazines or newspapers with your child?	7	.27	6	.21	4	.12
Count things out loud for your child?	8	.26	10	.20	9	.10
Say or sing the alphabet with your child?	9	.25	11	.19	5	.12
Draw or paint in your child's presence?	10	.25	16	.16	25	−.02
Use workbooks, flash cards, or similar materials with your child?	11	.24	8	.21	16	.08
Talk with your child about the colors of traffic lights?	12	.23	17	.16	8	.11
Sing with your child or in your child's presence?	13	.23	13	.18	13	.08
Do home repairs or remodeling in your child's presence?	14	.22	21	.14	14	.08
Play board games or cards in your child's presence?	15	.22	20	.14	22	.01
Read labels to your child such as the labels on food packages or clothes?	16	.21	18	.16	24	−.01
Explain the meaning of words to your child?	17	.20	15	.17	11	.09

Table 5.3 Correlation of Frequency of Home Learning Experiences with Types of Achievement Test (*Continued*)

Home Learning Experience	Type of Test: Verbal Rank	Verbal *r*	Quantitative Rank	Quantitative *r*	Psychomotor Rank	Psychomotor *r*
Explain signs or trademarks to your child?	18	.19	3	.25	17	.07
Do homework in your child's presence?	19	.18	14	.18	7	.11
Talk with your child about how family members are related to each other?	20	.17	24	.11	18	.06
Write letters, postcards, or messages in your child's presence?	21	.15	19	.15	21	.02
Give your child religious training?	22	.15	23	.12	19	.05
Read words from the TV screen to your child?	23	.14	12	.18	6	.12
Talk with your child about the numbers when changing TV stations or looking at the clock?	24	.10	25	.09	20	.05
Play school with your child?	25	.09	22	.13	23	.01

Item and Cluster Analyses[2]

An extensive series of item analyses and reliability computations were performed in an iterative fashion. That is, each item's *p* value and discrimination index was calculated as well as its correlation with the dependent variables. A total score for each child on each scale was computed. Weak items were eliminated. This process was then repeated until convergence on the subset of items that produced the most reliable total score with the greatest predictive validity was obtained. As item patterns (intercorrelations) began to appear, subsets of items were assigned scale labels. These subsets and the labels were submitted to a panel of nine colleagues. This panel was asked to independently assign items to scale labels and to suggest any scales (labels) that might have been overlooked (no other scales were suggested). This resulted in a set of

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[2] Wendie Yumori was instrumental in designing and conducting the cluster analyses reported here. Further, she took a major role in the interpretation of the results of these analyses.

Table 5.4 Correlation of Opinion Items with Achievement Test Scores

	Type of Test					
	Verbal		Quantitative		Psychomotor	
Opinion	Rank	r	Rank	r	Rank	r
Young children (age 3–4) usually don't learn from their mistakes.	1	.31	3	.18	4	.20
Parents should not allow the family life to be centered around the children.	2	.26	8	.15	2	.24
Children should learn moswtly by asking questions.	3	.26	1	.27	8	.14
Parents have little influence on what kind of adult their child will become.	4	.25	2	.24	1	.26
It is very important for children to speak proper English even before they go to kindergarten.	5	.24	5	.18	16	.08
Young children should be taught that life is not going to be easy.	6	.23	6	.18	7	.16
Parents should not make their children unhappy.	7	.21	10	.13	5	.20
Young children don't think logically.	8	.15	16	.09	3	.21
Children should know how to write their first name before they go to kindergarten.	9	.15	27	.01	35	(−.09)
Too much importance is placed on taking children to places like libraries, museums, and zoos.	10	.14	4	.18	6	.17

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Table 5.4 Correlation of Opinion Items with Achievement Test Scores (*Continued*)

	Type of Test					
	Verbal		Quantitative		Psychomotor	
Opinion	**Rank**	***r***	**Rank**	***r***	**Rank**	***r***
Children should be able to write the letters of the alphabet before they go to kindergarten.	11	.14	12	.11	31	(−.07)
Children should learn mostly be observing.	12	.14	19	.08	10	.13
Children's personalities are determined by how parents raise them.	13	.13	7	.17	15	.09
Young children learn the names of common objects without beging taught.	14	.13	9	.14	12	.11
It is not very important to teach young children to obey.	15	.13	15	.09	13	.11
Children should be able to say or sing the alphabet by the time they are 4 years old.	16	.13	22	.05	33	(−.08)
By age 4 children should know how to recite numbers 1 to 10.	17	.12	11	.12	9	.14
Young children should not bother their parents too much.	18	.10	39	(−.11)	21	.03
It is the responsibility of parents to see that their children do well in school.	19	.09	14	.09	14	.09
To do well in school, children need to be given educational toys.	20	.08	28	.01	22	.02

Table 5.4 Correlation of Opinion Items with Achievement Test Scores (*Continued*)

	Type of Test					
	Verbal		Quantitative		Psychomotor	
Opinion	Rank	*r*	Rank	*r*	Rank	*r*
You can't really teach young children creativity and originality.	21	.07	13	.09	18	.06
Children should always respect adults.	22	.03	26	.03	25	.00
The quality of my child's life will not depend on how well he/she does in school.	23	.03	23	.04	19	.04
Children should do what they are told without explanation.	24	.02	18	.08	24	.00
Some children just don't like school and you can't do anything about it.	25	.01	21	.06	26	(−.01)
A 4-year college education would help my child have a better adult life.	26	(−.01)	38	(−.11)	27	(−.03)
The needs of the family are more important than the needs of any one child.	27	.00	33	(−.02)	23	.01
Even young children (age 3–4) should use good manners.	28	(−.01)	35	(−.02)	28	(−.03)
Most parents put too much pressure on their children.	29	(−.02)	25	.03	30	(−.06)
Before they go to kindergarten, children should be taught to recognize common signs such as "Stop," "In/Out," and "Push/Pull."	30	(−.02)	30	(−.01)	36	(−.12)

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Table 5.4 Correlation of Opinion Items with Achievement Test Scores (*Continued*)

	Type of Test					
	Verbal		Quantitative		Psychomotor	
Opinion	**Rank**	***r***	**Rank**	***r***	**Rank**	***r***
When children watch too much TV, it's their parents' fault.	31	(−.04)	32	(−.01)	32	(−.08)
Children should not be taught to read before they go to kindergarten.	32	(−.04)	17	.09	17	.08
Too much importance is placed on sending young children to school.	33	(−.08)	37	(−.11)	37	(−.13)
Children do not need to be able to recognize the letters of the alphabet before they go to kindergarten.	34	(−.09)	31	(−.01)	11	.11
Young children (age 3–4) learn more from play than they do from schooling.	35	(−.09)	36	(−.03)	42	(−.22)
It is sometimes good for children to question adult authority.	36	(−.09)	20	.06	38	(−.14)
Most children need more time by themselves.	37	(−.10)	29	.00	43	(−.28)
It is very important for young children to play "school."	38	(−.15)	40	(−.11)	41	(−.20)
It is very important for parents to show their children how to use a variety of tools such as screwdrivers, needles, and scissors.	39	(−.15)	24	.04	20	.03
Early childhood (age 3–4) should be a time for fun and play rather than school and learning.	40	(−.20)	34	(−.02)	29	(−.04)

Table 5.4 Correlation of Opinion Items with Achievement Test Scores (*Continued*)

	Type of Test					
	Verbal		Quantitative		Psychomotor	
Opinion	Rank	*r*	Rank	*r*	Rank	*r*
It is important for parents to teach their children at home and not rely entirely on the schools.	41	(−.21)	41	(−.13)	40	(−.17)
Parents should always set a good example for their children.	42	(−.24)	43	(−.19)	39	(−.16)
Young children have to be taught to stand up for themselves.	43	(−.26)	42	(−.15)	34	(−.08)

Table 5.5 Reported Child Time Allocation: Activities and Educational Performance

	Rank by			
		Correlation with:		
Activity	Reported Time Spent	Verbal Tests	Quantitative Concepts Test	Psychomotor Test
Play outside: run, play ball, swim, swing, or ride bike	1	3 (.14)	1 (.15)	8 (−.12)
Scribble, write, draw, color, paint or cut paper	2	1 (.20)	3 (.09)	1 (.26)*
Sing, dance, or listen to music	3	7 (−.02)	8 (−.07)	2 (.16)
Talk or chat with someone	4	2 (.14)	2 (.12)	3 (.11)
Play with toys: blocks, trucks, dolls, or cars	5	6 (−.01)	4 (.06)	9 (−.24)*
Watch TV or videotapes	6	5 .00	7 (−.03)	7 (−.08)
Look at books	7	4 (.00)	5 (.06)	4 (.07)
Wrestle, rough-house, or tumble indoors	8	9 (−.15)	9 (−.13)	10 (−.25)*
Play make-believe	9	10 (−.18)	10 (−.15)	6 (.05)
Help around the house	10	8 (−.05)	6 (.02)	5 (.07)

*Correlation significant at the .05 level [.209 to .269]

Table 5.6 Preferred Child Time Allocation: Activities and Educational Performance

	Rank by			
		Correlation with:		
Activity	Reported Time Spent	Verbal Tests	Quantitative Concepts Test	Psychomotor Test
Scribble, write, draw, color, paint or cut paper	1	6 (.00)	5 (.01)	5 (−.06)
Sing, dance, or listen to music	2	7 (−.01)	7 (−.12)	2 (.13)
Talk or chat with someone	3	2 (.23)*	1 (.30)**	3 (.12)
Look at books	4	9 (−.32)**	9 (−.19)*	10 (−.15)
Play outside: run, play ball, swim, swing, or ride bike	5	1 (.32)**	2 (.20)	4 (.03)
Help around the house or yard	6	8 (−.22)*	8 (−.12)	8 (−.12)
Play with toys: blocks, trucks, dolls, or cars	7	5 (.02)	6 (−.06)	7 (−.08)
Play make-believe	8	4 (.05)	3 (.07)	1 (.18)
Watch TV or videotapes	9	10 (−.34)**	10 (−.25)*	9 (−.13)
Wrestle, rough-house, or tumble indoors	10	3 (.15)	4 (.04)	6 (−.07)

*Correlation significant at the .05 level [.209 to .269]
**Correlation significant at the .01 level [.270+]

scales, reliability coefficients, validity coefficients, item statistics (*p* and discrimination), and interscale correlations. Visual plots were used to identify outliers and set cutting levels for item inclusion.

Cluster analysis methods were also employed to construct scales. Cluster analysis is a general term for those methods that attempt to group items together on the basis of similarity. Clustering methods are generally descriptive in nature; they have value because of their simplicity and lack of assumptions. They can be especially useful in analyzing the items in an ordered category instrument as they provide information on the probable dimensionality of the instrument and graphically isolate items that do not belong (Dunn-Rankin, 1983). The purpose of cluster analysis in this case was to group relatively homogeneous items, or items that have some commonality. These scales would then be related to achievement.

In cluster analysis, the concepts of distance and similarity are especially important, since items are grouped on the basis of their "nearness." Just as there are many methods for calculating distances between items, there are many methods for combining items into clusters. A commonly used method is called *agglomerative hierarchical cluster analysis.*

The first step of hierarchical clustering is to combine two of the items into a single cluster. At the second step, either a third item is added to the cluster already containing two items, or two additional items are merged into a new cluster. At every step, either individual items are added to clusters or already existing clusters are combined. Once a cluster is formed, it cannot be split—it can only be combined with other clusters. The graphic representation of this clustering process is termed an *icicle plot.* One of the five icicle plots for the 60 original field-tested items in the parent opinion section of the instrument is given as an example in Figure 5.1. The merging of items into clusters is indicated by the configuration of the icicles in the plot.

Five different agglomerative hierarchical clustering methods were employed: Ward's Method, the Centroid Method, single-linkage, complete-linkage, and average-linkage-between-groups. In Ward's Method, the two clusters that merge at each step are those that result in the smallest increase in the overall sum of the squared within-cluster distances. The Centroid Method calculates the distance between two clusters as the distance between their means for all of the variables.

Of the five clustering methods used, the average-linkage-between-groups method appeared to yield the clusters which were most intuitively appealing. This method differs from the single-linkage method in which the distance between two clusters is taken to be the distance between their two closest points; or the complete-linkage method, in which the distance between two clusters is calculated as the distance between their two furthest points. In the average-linkage-between-groups method, if Items 1 and 2 form Cluster A and Items 3, 4, and 5 form Cluster B, the distance between Clusters A and B is taken to be the average of the distances between the following pairs of cases: (1,3) (1,4) (1,5) (2,3) (2,4) (2,5). This method uses information about all pairs of distances, not just the nearest or the furthest. For further information on each of these clustering methods, see the *SPSS-X Advanced Statistics Guide* (Norusis, 1985 pp. 180-181).

The icicle plots were interpreted in light of the content, or *meaning*, of the individual items. Clusters of items that yielded intuitively satisfying scales were identified. These scales (clusters) were then subjected to item-elimination procedures to maximize reliability (internal consistency) and validity (scale-criteria correlation). The surviving items formed the final scales.

Thus, two traditions of instrument-development statistical analyses were employed independently; conventional item analysis (to optimize reliability and validity), and cluster analysis. The results of these analyses were studied by the team and the final selection of items, assignment of items to scales, and the labelling of scales were completed.

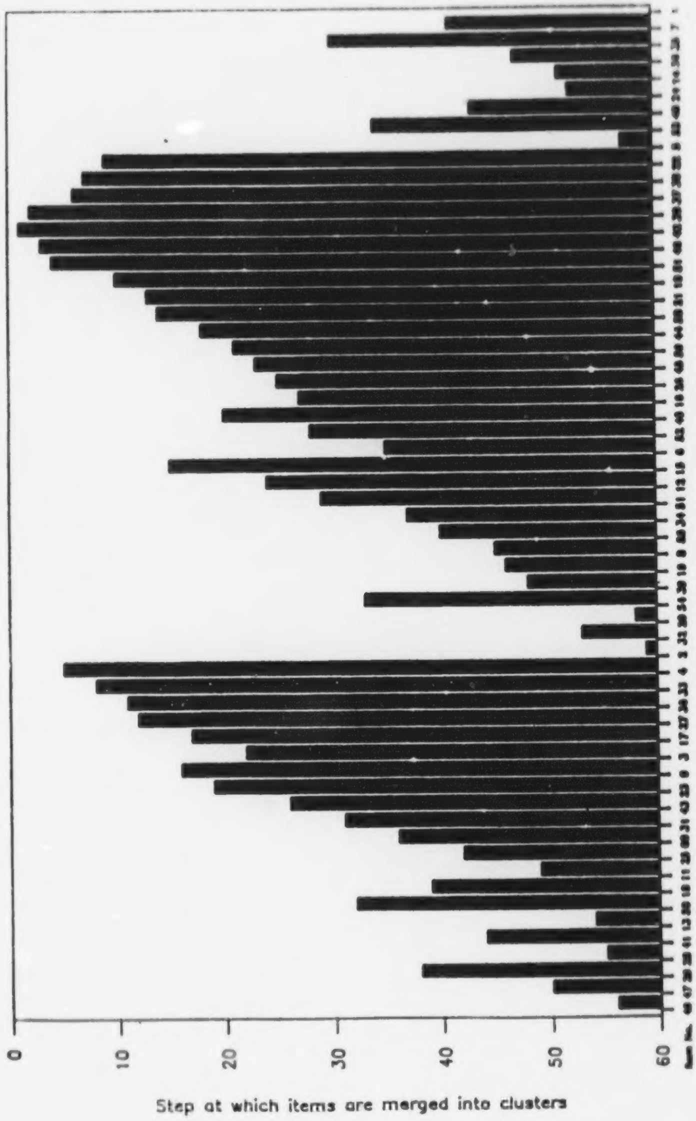

Figure 5.1 Example of plot of linkages between the 60 opinion items (taken from printout for average linkage between group method).

Home-Learning Experiences Scale

The field test version of the Home Learning Experiences section of the *Profile* contained 33 items. These items were subjected to the cluster analyses and item analyses described. The results of the five clustering methods were studied. All five methods of clustering items except one (Ward's Method) produced a single main cluster. The item analyses identified eight items with item-total correlations of less than .60 and with nonsignificant correlations with the criterion (achievement test) variables. These eight items were also among those with the weakest linkages to the clusters produced. These eight items were dropped from the Home-Learning Experiences scale, and scale statistics were then recalculated with the remaining 25 items. The item correlations of the surviving items with the three achievement test score variables and rank order of these correlations are shown in Table 5.3.

Scale total score correlations with other *Profile* scales and with the criteria variables are shown in Table 5.7. The scale reliability (alpha) and the distribution of scale scores are shown in Table 5.8.

Attitude Scales

The field test version of the Opinion section contained 60 items. Two independent approaches were taken in deriving scales from these items. Both cluster

Table 5.7 Correlations Among Profile Scales and Educational Test Scores (April '87)

1. Home Learning Experiences	.26*	.22*	.15	.06	.24*	.07	.26*	.22*	.10
2. Parental Responsibility for Teaching		.76*	.50*	.61*	.13	.35*	.43*	.28*	.19*
3. Parental Expectations			.38*	.41*	.12	.32*	.33*	.20*	.14
4. Child Autonomy				.60*	.06	.22*	.40*	.21*	.47*
5. Educational Engagement					-.00	.22*	.33*	.23*	.37*
6. Reported Child Time Allocation						.14	.30*	.26*	.03
7. Preferred Child Time Allocation							.36*	.31*	.15
8. Verbal								.81*	.62*
9. Quantitative									.59*

*Significant at the .05 level

Table 5.8 Frequency Distribution and Summary Statistics: Home Learning Experiences Scale Scores (April '87)

T Score Range	Frequency	Percentile[1]
65-69	8	100.0
60-64	17	90.4
55-59	6	69.9
50-54	3	62.7
45-49	11	59.0
40-44	31	45.8
35-39	7	8.4

N = 83

Number of items = 25
Alpha = .9830

Correlation with Educational Achievement Tests

Type of Test	r
Verbal	.26**
Quantitative	.22*
Psychomotor	.10

*Significant at the .05 level
**Significant at the .01 level
[1] Percentile corresponding to upper interval limit

analysis and conventional item analysis approaches were used to derive preliminary scales. The results of these two approaches were then integrated to yield the final attitude scales.

The 60 items were assigned to clusters using each of the five methods of cluster analysis. Each cluster analysis method produced from three to five clusters. Some items within each clustering method were not assigned to any of the clusters defined by that method. Then, based upon the similarities of item assignments to clusters by the five methods, a composite set of four clusters, and corresponding item assignments (scales), was derived. Information from conventional item analysis procedures (item-total and item-criterion correlations) was then used to refine each of the scales to maximize their reliability and validity by deleting less-effective items. Thus, the results of five cluster analysis procedures were integrated to derive four scales that included 38 of the original 60 field tested items.

Independent of the cluster analysis, conventional item analysis/test development procedures were undertaken. The 60 field test items were reviewed, and eight potential scales were identified on the basis of the content. The list of items and descriptions of these eight scales were submitted to a panel of nine colleagues. Each member of this panel was asked to assign items to the eight a priori scales and to identify any other constructs implicit in the item content. They suggested no additional scales. This item assignment to scales provided the basis for preliminary total scores used in conventional item analysis. As expected, the preliminary scoring schemes yielded lengthy scales with relatively low internal consistency and total score-criterion validity. Item-total correlations were plotted against item-criterion correlations in a bivariate distribution for each of the eight scales. These plots were then studied to select optimal items for each of the eight scales in a second round of scale development. This procedure was repeated, up to five times for some scales, until the scales had the highest possible reliability and validity.

Scales derived via the cluster analysis and item analysis methods were then reviewed and compared for similarity in content. Scales with poor reliability or validity and scales which were redundant or subsets of other scales were dropped. Based on this review, four attitude scales were retained, two derived from the cluster analysis approach (Parental Expectations and Educational Engagement) and two derived via the item analysis approach (Child Autonomy and Parental Responsibility for Teaching). These four scales included 43 of the original 60 opinion items.

The individual item correlations with the three achievement test score variables and rank order of these correlations for the 43 opinion items used in the final scales are shown in Table 5.4. Scale correlations with other *Profile* scales and with the criteria variables are shown in Table 5.7. The scale reliabilities and the distributions of scale scores are shown in Table 5.9.

Child Time Allocation Scales

There are two child time allocation scales, one for Reported Child Time Allocation and the other for Preferred Child Time Allocation. Each scale identifies child's relative use of time among 10 activities. The procedures used in developing the scale scores are the same for both scales.

In deriving Reported Child Time Allocation scale scores, activity scores were first calculated for each of the 10 activities presented. The score for each activity is equal to the number of times that activity was chosen in the pair comparisons among all 10 activities. Next, correlations between activity scores and educational achievement variables were calculated. Activity scores were then weighted by plus or minus one depending on the direction of the activity's correlation with the criteria. Weighted activity scores were summed for each child, and this sum became the scale score.

The same process was repeated to compute Preferred Child Time Allocation scale scores. Reasoning that the negatively weighted activities had already impacted on the positively weighted activities by reducing the number of times they were chosen, we tested a modified scoring system in which the scale score was equal to the sum of the positively weighted activity scores. This simplified scoring scheme resulted in no loss of predictive power and consequently replaces the sum of the 10 weighted activity scores as the scale score. Kendall's

Table 5.9 Parent Opinions: Frequency Distributions and Summary Statistics (April '87)

T Score Range	Parental Responsibility for Teaching		Parental Expectations		Child Autonomy		Educational Engagement	
	Freq.	%ile	'Freq.	%ile	Freq.	%ile	Freq.	%ile
75-79	1	100.0	1	100.0				
70-74	2	98.8						
65-69	4	98.8	6	96.4		100.0	5	100.0
60-64	11	92.8	7	89.2	14	95.2	6	94.0
55-59	10	79.5	4	80.7	12	78.3	15	86.7
50-54	9	67.5	21	75.9	19	63.9	27	68.7
45-49	23	56.6	13	50.2	16	41.0	9	36.1
40-44	15	28.9	18	34.9	7	21.7	9	25.3
35-39	3	10.8	8	13.3	6	13.3	6	14.5
30-34	5	7.2	3	3.6	1	6.0	3	7.2
25-29	1	1.2			4	4.8	1	3.6
20-24							1	2.4
15-19							1	1.2
N = 83								
Number of items =	20			19		8		15
Alpha =	0.65			0.55		0.40		.0.22

	Correlation with Tests of Educational Achievement Tests			
Type of Test	*r*	*r*	*r*	*r*
Verbal	.43**	.33**	.40**	.33**
Quantitative	.28**	.20*	.21*	.23*
Psycho-motor	.19*	.14	.47**	.37**

**Significant at the .01 level
*Significant at the .05 level
'Percentile corresponding to upper interval limit

coefficient of concordance (W), applied to ranks among the 10 activities, was used as an index of reliability for these scales.

The ranks of time allocation activities by frequency reported or preferred, the correlation of individual activities with the three achievement test score variables, and the ranks of these correlations are shown in Tables 5.5 and 5.6. Scale correlations with other *Profile* scales and with the criteria variables are shown in Table 5.7. The scale reliabilities and the distributions of scale scores are shown in Tables 5.10 and 5.11.

Table 5.10 Frequency Distributions and Summary Statistics: Reported Child Time-Allocation (RCTA) Scores (April '87)

T Score Range	Frequency	Percentile[1]
70-74	1	100.0
65-69	1	98.8
60-64	9	97.6
55-59	21	86.7
50-54	10	61.5
45-49	24	49.4
40-44	4	20.5
35-39	9	15.6
30-34	1	4.8
25-29	1	3.6
20-24	1	2.4
15-19		1.2
10-14	1	1.2

1N = 83

	Correlation with Educational Achievement Tests Type of Test	r
Number of items = 10	Verbal	.30**
Kendall's *W* = 0.79	Quantitative	.26**
	Psychomotor	.03

**Significant at the .01 level

[1] Percentile corresponding to upper interval limit

Social Context

Data were collected on the social context of three types of achievement-related activities. These activities were the following: (a) looking at books, newspapers, or magazines; (b) drawing, coloring, or writing; and (c) watching TV or video cassettes at home. If respondents indicated that their child participated in these activities, they were asked if the child was more likely to do so alone, with preschool-age children, with school-age children, or with an adult. Single-classification analyses of variance (ANOVAs) were used to examine differences in achievement test scores for children who fell into each of the groups listed above. Results of the ANOVAs revealed no significant effect for group membership. F-ratios obtained ranged from .04 to 2.71 (the F probability ranged from .07 to .96). The lack of significance may have been due to the way the questions were presented or to restriction of range in our field test population. This section of the field test instrument was not used in further scale development and was not included in the final instrument.

Table 5.11 Frequency Distributions and Summary Statistics: Preferred Child Time-Allocation (PCTA) Scores (April '87)

T Score Range	Frequency	Percentile[1]
65-69	9	100.0
60-64	3	89.2
55-59	16	85.5
50-54	19	66.3
45-49	7	43.4
40-44	19	34.9
35-39	4	12.0
30-34	5	7.2
25-29	1	.2

N = 83

	Correlation with Educational Achievement Tests	
	Type of Test	***r***
Number of items = 10	Verbal	.36**
Kendall's W = .89	Quantitative	.31**
	Psychomotor	.15

**Significant at the .01 level

[1] Percentile corresponding to upper interval limit

RESULTS

The series of pilot and field tests and the various analyses of the data they generated resulted in seven scales. Each of these scales assesses a different facet of the child's home-learning environment. The scoring protocol for each scale is based on the correlation of items and combinations of items with educational achievement test performance. The child's score on each scale is expressed in a standardized (T) score form. Thus, it is possible to construct a profile for each student that displays the relative strengths and weaknesses in that child's home environment (see Figure 2). The seven scales are:

Home-Learning Experiences: This scale consists of a list of 25 experiences common in most homes that were significantly related to the educational performance of preschool children. The scoring protocol is based on these correlations. Parents indicate on the *Profile* how frequently their children engage in each activity or observe another person in that activity.

Parental Responsibility for Teaching: Scores on this 20-item scale indicate how parents view their responsibility for teaching preschool children in the home. A high score indicates that the parent believes schooling is important,

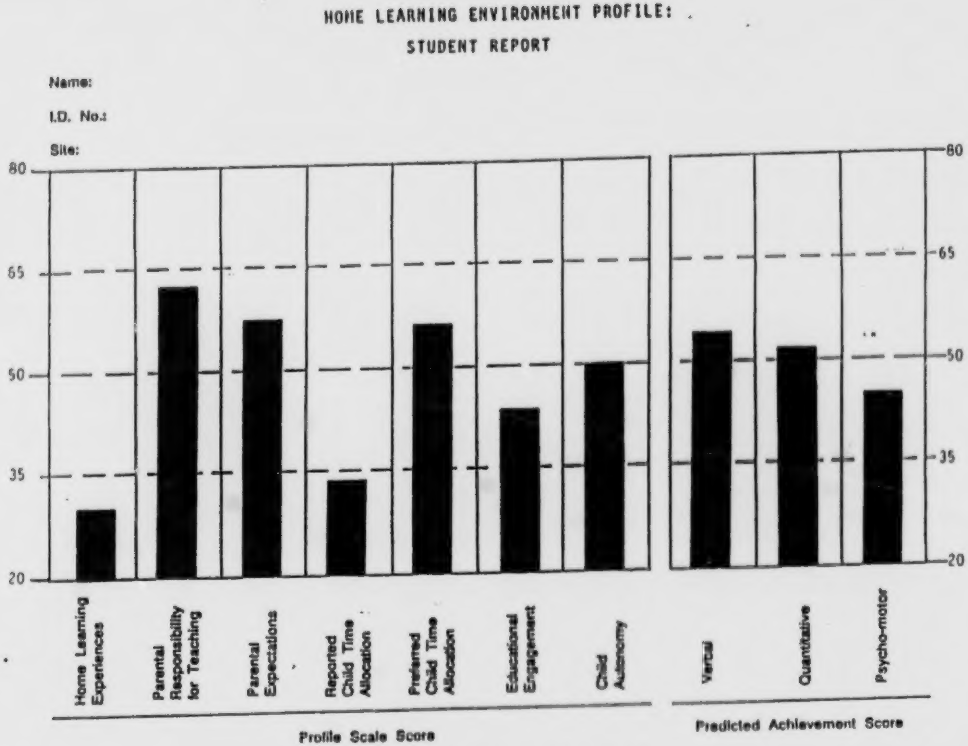

Figure 5.2. Sample Individual Profile

and that teaching young children language skills, numbers, and other academic skills at home is a responsibility of parents. A high score indicates that the respondent believes that parents can do much to determine how well their children do in subsequent schooling. High scorers do *not* believe that early childhood should be devoted to play or that early teaching in the home is harmful to children.

Parental Expectations: This 19-item scale reflects the parents' expectations for their preschool-age children's learning. Parents with high scores tend to believe that children should learn the alphabet, numbers, and colors before they enter kindergarten. They expect children to respect adults, use good English, and learn manners at an early age. They believe that education is important for their child and that children can demonstrate educational growth in the preschool years.

Educational Engagement: This 15-item scale is a measure of parental concern for educational activities during early childhood. A high score indicates that the parent has the opinion that the preschool years are a time for instruction, not just play. Low scores are associated with beliefs that young children are not highly rational, that direct instruction and pressure to learn are not good, and that parental influence during the preschool years has limited effect on their children's ultimate educational success.

Child Autonomy: This 8-item scale score reflects parental beliefs that young children learn independently, need time by themselves, and are responsible for their own learning. A high score indicates that the parent thinks children should question adult authority, that they learn more by observation than from instruction, and that the family should not be child centered.

Reported Child Time Allocation: This scale is based on the relative allocation of the child's time among 10 common home activities. Relative time allocation among these activities is reported by the parent through a pair-comparison scaling technique. The scoring protocol is derived from the empirical correlation of each of the activities with preschool educational achievement test performance.

Preferred Child Time Allocation: This scale is based on the parents' preferences for the child's allocation of time among the same 10 activities. The same pair-comparison response mode is employed to rank these preferences. The scoring protocol is based on the correlation of these parent-preferences with children's performance on educational achievement tests.

The number of items and the reliability of each of the seven scales and each of the educational achievement test criteria are given in Table 5.12. The reliability estimates of the seven *Profile* scales are influenced by the limited variability of the population used in the instrument development process. This restriction of range, due to a selected and relatively homogeneous respondent group, can be

Table 5.12 Reliability of Profile Scales and Educational Achievement Tests

	Number of Items	'tt' Spring '87 (n = 83)	'tt' Summer '87 (n = 119)[5]
PROFILE SCALES:			
Home Learning Experiences	25	.98	.86
Parental Responsibility for Teaching	20	.65	.54
Parental Expectations	19	.55	.42
Child Autonomy	8	.40	.45
Educational Engagement	15	.22	.15
Reported Child Time Allocation	10	.79	.35
Preferred Child Time Allocation	10	.89	.49
EDUCATIONAL ACHIEVEMENT TESTS[2]:			
Verbal[3]	NA	.82	
Quantitative[4]	80	.87	
Psycho-motor[4]	30	.90	

[1] For the verbal achievement criterion, reliability estimates provided by the test publishers were converted to Fisher's Zs, averaged, and then converted back to an alpha distribution. Reliability coefficients reported for the Quantitative and Psychomotor scores are those provided by the test publisher. Reliability coefficients for Reported and Preferred Child Time Allocation are Kendall's Ws. All other reliability coefficients are Cronbach's alphas calculated by SPSS-X reliability procedures.

[2] Achievement criterion scores were derived from combinations of pre and posttest achievement scores. For the Verbal criterion score, T-scores for PPVT-R, Language Usage, Language Understanding and General Knowledge pre and posttests were summed. The sum was then transformed into a T-score. For the Quantitative criterion score, T-scores for pre- and posttests for Quantitative Concepts were summed and the sum was converted to a T-score. The same procedure was followed for the Psychomotor criterion score, using pre and posttest Psychomotor T-scores.

[3] Number of items varies due to inclusion of PPVT-R (form L)

[4] Since pre- and posttest scores were combined, the number of items used to measure educational achievement is twice the number of items in these tests.

[5] The Profile was administered to parents of children selected for Fall term admission to preschool in August 1987.

expected to result in diminished reliability coefficients. Nevertheless, each of the seven scales is sufficiently reliable to produce significant correlations with the criterion variables and to make a significant contribution to the multiple correlation of combined scales with criteria.

In August 1987, the *Profile* was again administered, this time to the parents of 119 children accepted for Fall admittance to Kamehameha Schools' preschools. Over 90% of children were Hawaiian or part-Hawaiian. The average age of the children was 49.9 months. The instructions of the *Profile* were modified so that the instrument could be self-administered. The Spring and Summer means and standard deviations for the seven *Profile* scales are given in Table 5.13. Comparisons of the item means for the April and August samples appear in Tables 5.14–5.17.

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Table 5.13 Comparison of Scale Scores for Spring and Summer 1987 Samples

April	August			
Scale	**Average**	**S.D.**	**Average**	**S.D.**
Home Learning Experiences	55.5	24.1	81.6	8.7
Parental Responsibility for Teaching	49.4	7.2	47.4	5.8
Parental Expectations	39.2	5.7	39.2	5.2
Child Autonomy	22.0	3.9	22.1	3.7
Educational Engagement	39.1	4.5	37.8	4.3
Reported Child Time Allocation	23.4	3.2	24.0	3.6
Preferred Child Time Allocation	16.0	4.3	14.9	3.5

The multiple correlation coefficients (R) of the seven scales with each of the three achievement criteria are shown in Table 5.18. Two of the three *R*s are significant at the .01 level, the other at the .05 level. These validity coefficients compare favorably with the criterion-validity coefficients reported for educational achievement and intelligence tests (the *Profile* correlates .59 with verbal achievement test scores). Cattell (1983) states, "The level of prediction of school achievement (average over subjects) from the ordinary intelligence test is known from literally hundreds of research studies to be about +0.55" (p. 36). Criterion validity at these levels of measures of the home-learning environment is very encouraging and perhaps somewhat surprising. The difficulties of testing the academic skills of preschool children and the psychometric problems often ascribed to the assessment of attitudes, beliefs, and parental reports of children's behavior were not encouraging considerations as we began this work. These validity coefficients suggest that such concerns have been unfounded.

The Pearson correlations (r) among the 10 variables, both dependent and independent, are given in Table 5.7. Brief study of this table will reveal that the patterns of predicting achievement test performance from the home environment vary considerably by type of cognitive activity. Some home-life characteristics are more important influences on quantitative achievement, while others are more clearly associated with verbal or psychomotor test performance.

The frequency distribution, percentile distribution, reliability coefficient, and criterion correlations for each of the seven scales are reported in Tables 5.8 through 5.13. The correlation of individual scales is generally lower with psychomotor test scores than with either verbal or quantitative concept test scores. Since psychomotor scores are expected to be more influenced by physical maturation and less influenced by home and family environment, this correlational pattern is consistent with the construct validity of the *Profile*.

DISCUSSION

Perhaps the most interesting outcome of this work is the finding that a rigorous assessment of home environment variables can be as predictive of the educa-

Table 5.14 Comparison of Home Learning Experiences Item Means: April and August 1987 Samples

Home Learning Experience Item	Item Means	
	April (n = 83)	August (n = 131)
Tell jokes or riddles to your child?	2.2	3.0
Play ball with your child?	2.1	3.4
Talk with your child about the colors of clothes while dressing?	2.1	3.4
Tell stories to your child?	2.2	3.5
Point out the shapes of things such as circles, triangles, and squares?	2.1	3.5
Dance with your child or in your child's presence?	2.2	3.5
Read or look at books, magazines, or newspapers with your child?	2.2	3.5
Count things out loud for your child?	2.1	3.7
Say or sing the alphabet with your child?	2.2	3.6
Draw or paint in your child's presence?	2.4	3.1
Use workbooks, flash cards, or similar materials with your child?	2.3	2.9
Talk with your child about the colors of traffic lights?	2.1	3.3
Sing with your child or in your child's presence?	2.1	3.7
Do home repairs or remodeling in your child's presence?	2.4	3.1
Play board games or cards in your child's presence?	2.4	3.2
Read labels to your child such as the labels on food packages or clothes?	2.2	3.0
Explain the meaning of words to your child?	2.3	3.5
Explain signs or trademarks for your child?	2.3	2.8
Do homework in your child's presence?	2.3	3.0
Talk with your child about how family members are related to each other?	2.2	3.4
Write letters, postcards, or messages in your child's presence?	2.3	3.0
Give your child religious training?	2.2	3.3
Read words from the TV screen to your child?	2.1	3.1
Talk with your child about the numbers when changing TV stations or looking at the clock?	2.0	3.1
Play school with your child?	2.2	3.1

Table 5.15 Comparison of Opinion Item Means: April and August 1987

Item Means Opinion Item	April (n = 83)	August (n = 119)
Young children (ages 3–4) usually don't learn from their mistakes	2.7	3.0
Parents should not allow the family life to be centered around the children	2.9	3.0
Children should learn mostly by asking questions	1.6	1.8
Parents have little influence on what kind of adult their child will become	3.5	3.3
It is very important for children to speak proper English even before they go to kindergarten	2.0	1.6
Young children should be taught that life is not going to be easy	1.9	2.1
Parents should not make their children unhappy	1.8	1.8
Young children don't think logically	2.9	3.1
Children should know how to write their first name before they go to kindergarten	2.1	1.6
Too much importance is placed on taking children to places like libraries, museums, and zoos	3.4	3.1
Children should be able to write the letters of the alphabet before they go to kindergarten	2.9	2.3
Children should learn mostly by observing	2.6	2.5
Children's personalities are determined by how parents raise them	1.6	1.6
Young children learn the names of common objects without being taught	2.6	2.8
It is not very important to teach young children to obey	3.7	3.4
Children should be able to say or sing the alphabet by the time they are four years old	1.9	1.4
By age four children should know how to recite numbers 1 to 10	1.4	1.2
Young children should not bother their parents too much	3.7	3.8
It is the responsibility of parents to see that their children do well in school	1.2	1.2

Table 5.15 Comparison of Opinion Item Means: April and August 1987 (*Continued*)

Item Means Opinion Item	April (n = 83)	August (n = 119)
To do well in school, children need to be given educational toys	1.3	2.1
You can't really teach young children creativity and originality	3.6	3.3
Children should always respect adults	1.3	1.3
The quality of my child's life will not depend on how well he or she does in school	3.6	3.1
Children should do what they are told without explanation	3.4	3.3
Some children just don't like school and you can't do anything about it	1.4	1.5
The needs of the family are more important than the needs of any one child	1.8	1.8
Even young children (ages 3–4) should use good manners	1.3	1.3
A 4-year college education would help my child have a better adult life	1.9	1.6
Most parents put too much pressure on their children	3.0	2.8
Before they go to kindergarten, children should be taught to recognize common signs such as "Stop," "In/Out," and "Push/Pull"	1.7	1.6
When children watch too much TV, it's their parents' fault	1.5	1.7
Children should not be taught to read before they go to kindergarten	1.4	1.5
Too much importance is placed on sending young children to school	1.9	1.9
Children do not need to be able to recognize the letters of the alphabet before they go to kindergarten	2.2	2.1
Young children (ages 3–4) learn more from play than they do from schooling	1.9	2.0
It is sometimes good for children to question adult authority	3.5	3.3
Most children need more time by themselves	2.1	1.8

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Table 5.15 Comparison of Opinion Item Means: April and August 1987 (*Continued*)

Item Means Opinion Item	April (n = 83)	August (n = 119)
It is very important for young children to play "school"	1.7	1.8
It is very important for parents to show their children how to use a variety of tools such as screwdrivers, needles, and scissors	3.3	3.1
Early childhood (ages 34) should be a time for fun and play rather than school and learning	2.2	1.8
It is important for parents to teach their children at home and not rely entirely on the schools	3.7	3.6
Parents should always set a good example for their children	3.9	3.9
Young children have to be taught to stand up for themselves	3.0	3.1

tional achievement of young children as individually administered intelligence tests. There has been a long-standing belief that intelligence tests somehow produce "hard" data, while attitude scales and behavioral reports are "soft." Our findings show this belief to be unfounded in terms of both reliability and validity.

Table 5.16 Comparison of Reported Child Time Allocation Means: April and August 1987 (*Continued*)

Item Means Activity	April (n = 83)	August (n = 128)
Play outside: run, play ball, swing, or ride bike	7.4	7.6
Scribble, write, draw, color, paint or cut paper	6.6	5.6
Sing, dance, or listen to music	5.0	4.8
Talk or chat with someone	4.9	4.4
Play with toys: blocks, trucks, dolls, or cars	4.4	6.3
Watch TV or videotapes	4.4	4.0
Look at books	4.2	2.5
Wrestle, rough-house, or tumble indoors	3.9	3.7
Play make-believe	2.5	2.3
Help around the house	1.7	3.2

Table 5.17 Comparison of Preferred Child Time Allocation Means: April and August 1987

Item Means Activity	April (n = 83)	August (n = 128)
Scribble, write, draw, color, paint or cut paper	7.4	7.6
Sing, dance, or listen to music	6.4	5.4
Talk or chat with someone	6.3	4.5
Look at books	5.9	4.7
Play outside: run, play ball, swim, swing, or ride bike	5.9	6.5
Help around the house or yard	3.8	4.6
Play with toys: blocks, trucks, dolls, or cars	3.4	5.3
Play make-believe	2.9	2.2
Watch TV or videotapes	2.1	1.9
Wrestle, rough-house, or tumble indoors	1.0	1.6

The *Profile* scales correlate differentially with tests of verbal, quantitative, and psychomotor skills. Thus, the results do *not* support the notion that there is one best way that families can support the cognitive growth of children. Rather, this work illustrates that some of the features of individual family environments strongly support the development of some cognitive skills while contributing less strongly to the development of others.

The results suggest that reproducing traditional or formal features of a school environment in the home is not the most effective way of influencing the achievement level of a preschool child. Using workbooks or flash cards at home with preschoolers, for example, is less strongly associated with educational achievement than is sharing of jokes or riddles. Homes need not emulate classrooms to prepare children for school.

Table 5.18 Multiple Regression of the Seven Home Learning Environment Profile Scale Scores with Three Types of Educational Achievement Test Scores (April '87 sample)

Type of Achievement Test Score	*R*
Verbal	.59**
Quantitative	.45*
Psycho-Motor	.51**

*Significant at the .05 level
**Significant at the .01 level

One issue that is addressed by comparing the April and August results is the effect of attending preschool on the home life of children. Parents who have had their children in preschool for the school year have strikingly similar opinions to those whose children are both 9 months younger and have not yet started preschool. In addition, the reported actual and preferred ways that the children's time is allocated are quite alike for the two samples. However, a large difference between the samples is apparent in the reported frequency in home-learning experiences. The parents of the younger children, those who have not yet started preschool, note a higher frequency of home-learning experiences. This may reflect a recognition that children in preschool are spending less time at home and thus encounter fewer learning experiences there.

The implications of these findings for program development are striking. Intelligence test scores and status measures, such as socioeconomic status and birth order, are for the most part educational dead ends. This is not true of behavioral and attitudinal measures. Knowledge of which home behaviors and parental attitudes are associated with educational success provides some guidance to program developers, researchers, administrators, and teachers. The *Home-Learning Environment Profile* is intended to help educators in their selection of teaching materials and effective classroom instructional methods, to provide useful background information for interpreting educational test scores, and to enrich communication between parents and educators.

That we have focussed on the educational aspects of home life in the *Profile* does not mean that we believe that families are important only as places where children acquire educational competencies. Obviously, home life has many functions. Families provide children with a base of security, love, self-esteem, cultural heritage, and family identity. Home is *not* school, nor do we think it should be. However, by understanding the configuration of the home environment unique to each child, and by working with the family to build upon the strengths of that configuration, it may be possible to create enduring and powerful educational effects.

The *Home-Learning Environment Profile* has been developed using a self-selected, relatively small population of ethnic-Hawaiian families. We anticipate collecting more data from a larger, more diverse population. With such data, we hope to study further the reliability of our measures, as well as to identify the unique features of Hawaiian families.

To point out that certain educational aspects of home life are linked to school achievement does not imply that all families should be similar. Our view is just the opposite. We believe that the learning experiences of children can be improved within the context of ethnic and social diversity. We also believe that each person's home is a refuge, deserving privacy and respect. We hope that the work begun here will be useful in understanding and building upon the home environment to enhance the education of Hawaiian children.

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Chapter 6

Mother–Child Interactions and the Development of Verbal and Perceptual Skills in Part-Hawaiian Preschool Children

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INTRODUCTION

Relating parental interactive behaviors to child outcome has never been an easy task (Farran, 1982). While experimental alterations of specific parental behaviors have produced immediate changes in children's behaviors in a laboratory (Tronick, 1982; Mash & Barkley, 1986), it is not possible, obviously, to assign children randomly to parents of different styles and determine whether there are concomitant differences in children's competencies and behaviors over the long term.

Investigations in this area have often examined a homogeneous group of children at one point in time and correlated the behaviors of the parents with the behaviors and/or competencies of the children measured at the same point in time. Inference of causal direction in these studies is problematic as Bell (1968) warned some time ago. Comparing the behaviors of groups of mothers formed by age, ethnicity, or socioeconomic indicators, and relating those behavioral differences to the fact that their children differ in certain outcomes, is equally flawed, because both sets of differences could be due to other factors unaccounted for in the study; often, in fact, the assumed causal connections are not maintained in each subgroup separately (Ramey & Farran, 1981). Recent sophisticated studies of parent–child interaction, however, have focused on more specific types of developmental outcomes (e.g., vocabulary), and the consistency of the associations obtained suggest promising avenues to pursue.

Vocabulary and language are of particular concern to those interested in the development of part-Hawaiian children. Part-Hawaiian children enter kindergarten with extremely low vocabulary scores (Farran, 1988; Heath & Plett, 1988; Heath, Plett, Tibbetts, & Medeiros, 1987). The significance of such low vocabulary scores is highlighted by the fact that the state of Hawaii ranks 50th of the 50 states in the verbal section of the Scholastic Aptitude Test (SAT), suggesting that schools do little to ameliorate the problem (Tibbetts & Heath, 1987). Of even greater developmental interest is the fact that part-Hawaiian children do not have similar low scores in the areas of spatial reasoning and perception (Speidel, Farran, & Jordan, 1989); in fact, in those areas part-Hawaiian children score above standardized norms. The discrepancy on the Wechsler Intelligence Scale for Children (WISC) between the verbal and performance subtests has averaged greater than 15 points, a difference often considered to be clinically significant (Speidel et al., 1989).

Recent efforts to determine parental interactive behaviors linked to vocabulary development have had remarkably similar findings. Two efforts followed children from 12 to 24 months. Both showed that *preverbal* interactions between mothers and their infants were not linked to vocabulary growth, but that interactions between 12 and 24 months were strongly related to the children's vocabulary size and to scores on the Bayley Mental Development Index (Olson, Bayles, & Bates, 1986; Spangler, 1989). Spangler found a high correlation between the MDI at 24 months and verbal symbolic interactions, interactions that occurred almost exclusively with the mother. Olson et al. assert that large, differentiated vocabularies in young children are indicative of superior developmental progress generally. They conclude that

> Vocabulary progress did not reflect high levels of global maternal stimulation. Rather, children's vocabulary progress was most closely linked to frequent, responsive mother–child language interactions. The frequency of these language interactions tended to be a relatively stable characteristic of individual mother–child dyads, which may help to explain why children's vocabulary progress showed such high stability. (p. 19)

Martinez (1987), in a study of Spanish-speaking mothers and children, concluded that parents provided a far more complex dialogue structure for children than peers did. Vocabulary growth in children may be related to verbal interactions with adults because children are highly dependent on adults to carry on sustained conversations. Eventually those conversations may turn into informal teaching–learning situations that encourage the development of emergent literacy in the 3- to 5-year-old-child according to a recent cross-sectional study conducted by Bus and van Izendoorn (1988). A complex longitudinal study comparing preschool peer and adult interactions and their relationship to later performance found that time spent with adults in preschool was significantly related to better grades and achievement in elementary school (Harper & Huie, 1987).

Few studies have compared the development of verbal and performance (spatial, perceptual, fine motor) competencies. Much more attention has been directed to vocabulary growth, perhaps because vocabulary has proven to be such a strong predictor of school competence. In cultures that value school achievement and have compulsory school attendance, it is sensible that mainland United States and European researchers would concentrate on that connection. A direct comparison of perceptual and verbal skills has most recently been conducted by Jennings and Conners (1989). Maternal directiveness was significantly negatively related to the development of perceptual competencies measured on the McCarthy Scale of Children's Abilities, but was not related to verbal competencies. Positive affective tone in maternal interactions was related to high verbal scores.

This set of studies suggests that different maternal behaviors may be related to different competencies in children. The domination of concern for vocabulary growth may have obscured effects of interactive behaviors on other areas of development in young children. The purpose of this study was to examine the variability in mother–child interaction patterns in a sample of mothers of part-Hawaiian preschool children and to assess the relationship of these behaviors to competencies demonstrated by their children. Moreover, this study attempted to determine whether the variability often encountered in mother–child interaction patterns derives from beliefs and theories specific for a given child or mother.

METHOD

Subjects

Thirty-eight mothers of part-Hawaiian children were recruited to take part in this study; all were associated with Kamehameha Schools, a private school for part-Hawaiians in Honolulu (admission to the preschool and elementary school is by lottery). The sample is described in Table 6.1.

Although there was some variability, mothers were in their late twenties or early thirties, with a high school education. One third of the sample were single parents. Children tended to be first-born and live in households that were larger than generally encountered in the continental United States.

Table 6.1 Demographic Characteristics of 38 Part-Hawaiian Preschool Children

	Parents	
	Age	Education
Mothers		
X	30.42	12.5 years
R	20–43	7-18 years
Fathers		
X	34.3	12.9 years
R	24-45	9–17 years

	Children		
	Age	Birth Order	
X	52.9	First	18.4%
R	46-59	Second	36.8%
		Third	26.3%
		Fourth	18.4%

Households			
Number of Parents		Size	
Single[a]	31.5%	Adults	2.26
Two-Parents	68.4%	Children	3.11

[a] Never married, separated, or divorced

Procedures

Mothers were videotaped for 20 minutes in a room furnished like a living room at the preschool on the Kamehameha campus. They were instructed to play with their children as they would at home if they had 20 minutes of free time. Following the videotaping, mothers were invited to view the videotape in a darkened room while they were interviewed about the interactions on the screen, general qualities of the child, their approach toward raising the child, and their explanations of the children's and their own behaviors. These interviews were audiotaped and later transcribed. Children received the Peabody Picture Vocabulary Test and the Wechsler Intelligence Scale for Children during two visits.

The videotapes were coded for frequency and duration of play using a second-by-second behavioral count system developed by Farran and Haskins (1977). Specific behaviors coded were:

1. Mutual activity: active involvement in the same toy or book (total duration, frequency, and mean length of each episode).

2. Passive involvement of mother: watching child's play (total duration).
3. Mother reading alone: noninvolvement with child (total duration).
4. Unfocused play by the child: contact with toy but no sequenced activity (total duration).
5. Focused play by the child: sequenced activities with toys (total duration).
6. Interactive behaviors of both mother and child:
   a. Showing, pointing out (frequency)
   b. Directing (frequency)

RESULTS

Dyadic Interactions

How much mothers actively played with their children during the session varied greatly. To reduce the variability, dyads were divided into four groups on the basis of how much of the session they played actively together: (a) less than 25%, (b) between 25 and 50%, (c) between 50 and 75%, and (d) more than 75%. Table 6.2 provides information on the total duration and mean length of episodes of mutual play during the session for each subgroup. The groups were clearly different in how much of the session mothers and children spent playing together actively. The frequency of interactive bouts was relatively similar (except for the last group where the three dyads were involved in mutual play virtually the entire session); thus the key difference in the interactive style of these four groups of dyads involved the *length* of each play episode.

Table 6.2 Amount, Frequency and Mean Length of Mutual Activity

	Mutual Activity		
	Total Duration	**Frequency**	**Mean Length**
Group 1:			
Low Total Duration (<25% of session)[a] (N = 11)			
X(SD)	124.1 (69.4)	11.2 (9.2)	24.6 (31.2)
Group 2:			
Low-Moderate Total Duration (25%-50% of session)[a] (N = 13)			
X(SD)	480.8 (67.5)	15.8 (8.4)	37.8 (18.4)
Group 3:			
Moderate to Long Total Duration (51%-75% of session)[a] (N = 11)			
X(SD)	729.8 (114.0)	15.4 (8.2)	56.4 (22.8)
Group 4:			
Long Total Duration (75% of session)[a] (N = 3)			
X(SD)	1057.5 (64.1)	5.7 (2.6)	278.9 (197.7)

[a] 1,200 second session

Table 6.3 Interactive and Controlling Behaviors of Mothers and Children

	Mothers		Children	
	Showing	**Directing**	**Showing**	**Directing**
Group 1:				
Low Total Duration (<25% of session) (N = 11)				
X (SD)	19.5 (14.5)	33.4 (20.9)	30.4 (24.8)	3.2 (2.5)
Group 2:				
Low-Moderate Total Duration (25%–50% of session) (N = 13)				
X (SD)	34.6 (19.8)	44.9 (20.7)	40.5 (26.8)	10.5 (8.8)
Group 3:				
Moderate to Long Total Duration (51%–75% of session) (N = 11)				
X (SD)	30.9 (14.9)	43.4 (23.8)	27.5 (10.0)	9.4 (6.5)
Group 4:				
Long Total Duration (75% of session) (N = 3)				
X (SD)	51.0 (22.7)	39.0 (12.8)	42.7 (7.3)	13.3 (3.4)

Table 6.3 summarizes the directing and showing (pointing, referencing) behaviors of mothers and children in the four groups. The positive-interactive behaviors of showing and referencing materials were much less characteristic of mothers in the least interactive group and much more in the most interactive group. There was not as much difference in maternal directing behaviors. Directions could be given at a distance even if the mother was not actively involved in the child's play. Children, on the other hand, tended to be more reciprocally directive if the mothers were engaged in play with them; their levels of referencing were about the same no matter how much mutual play occurred (some showing toys may have occurred as an enticement to get mothers to play).

Further analyses indicated that the four subgroups did not differ in terms of demographic characteristics.

Children's Tested Competencies

The four subgroups differing on amounts of dyadic interaction also differed on the children's performance on the Wechsler Intelligence Scale for children and the Peabody Picture Vocabulary Test as shown on Table 6.4. Children whose mothers were in mutual activities with them less than 50% of the session had the typical Hawaiian pattern of low average verbal scores (on both the WPPSI and the PPVT) and average to above average performance scores. On the WPPSI, the difference between Verbal and Performance scores was between 16 and 18 points. Children of mothers who engaged in active play with them had equivalent verbal and performance scores. The WPPSI Performance scores for Groups 3 and 4 combined are significantly lower than those of Groups 1 and 2. The Verbal Scores are slightly lower for Groups 1 and 2 combined, but a comparison to

Table 6.4. Test Performance of Children in Dyads Who Differed in Their Play Interactions

Groups	N	WPPSI		PPVT
		Verbal	Performance	
Group 1: Low Total Duration				
$\bar{x}$ (SD)	11	95.1 (8.4)	111.6 (17.8)	96.7 (12.5)
Group 2: Low-Moderate Total Duration				
$\bar{x}$ (SD)	13	93.2 (18.0)	110.6 (12.8)	99.7 (20.5)
Group 3: Moderate-Long Total Duration				
$\bar{x}$ (SD)	11	100.5 (12.6)	101.3 (17.4)	101.2 (7.9)
Group 4: Long Total Duration				
$\bar{x}$ (SD)	3	95.7 (8.5)	95.7 (22.5)	104.0 (16.0)

Groups 3 and 4 combined indicated they were not significantly lower. These comparisons do not suggest a positive effect on vocabulary and verbal skills for part-Hawaiian children of extended interactions with their mothers; in fact, if anything, they suggest a positive effect on perception and spatial reasoning from *less* maternal involvement in play.

Maternal Explanations for Dyadic Behavior

Given that these were contemporaneous observations and skill assessments, there is no way to make a causal inference about the connection between maternal behavior and the children's competencies. The interviews with the mothers suggested, in fact, that mothers themselves were not positively disposed to spend a lot of play time with their children.

After the subgroups were formed, interviews with the mothers in each group were assessed for the explanations of the various patterns observed. Sample quotes are included below. Mothers who were the least interactive spoke of their children's ability to be independent as a positive accomplishment.

Dyad 38

> He's independent, so he doesn't really need my supervision, I guess, when he's playing. He doesn't like . . . I don't think he likes to be interrupted. So I usually let him play and when he needs me he'll come over and call me.

Dyad 23

> The only thing that I would teach him on a one to one would be jobs around the house. But for me to sit down and play with him is, you know, I don't do that.

Others had explicit reasons for stressing independence as in the following quote:

Dyad 21

> But I always stress as much as possible, finish what you're doing. And I always make her finish it. Even if it's hard. I'll help her finish. . . . But I have to be harder on her. I'm always harder on her. Because she's a girl. And I stress it that when she grown up its gonna get harder for her. And if she cannot cope with it now, she ain't gonna be able to cope with it later. Cause I told her, "Life is just unreal." . . . 'Cause I always stress it, that she has to be the one that is stronger than the father, you know, than the *boys*. Because the boys, all they have to do is go to work and come home. And you, from the morning to night, you gotta cope what's gonna happen during the day. You gotta do the cooking, take care the kids, and it's, if we cannot handle that, then who's gonna help you? If you cannot help yourself, nobody can help you. I always make her feel that she have to help herself first, in order to [get] somebody [to] help her.

Mothers whose individual interactive episodes were brief spoke of being under stress. They seemed to consider their children as lacking in self-sufficiency or were concerned about perceived inadequacies on their own parts.

Dyad 24

> And sometimes I feel so selfish, you know? But I just get so keyed up at work, you know, five days a week, come home, take care of the ki—, I mean in the morning I get up, I take care of them, I take them to work, I mean to school. And then I'm home, cooking dinner, washing clothes, straightening up the house. You know? So, when I can find time to be by myself, I take full advantage of that. You know? And K___ will play by herself and L . . . 's off doing her homework, you know? Every so often L___ will come out and say, "Mommy help me with this," and I'll help her. You know? But I don't like to help her too much where I'm doing her homework, see? So I send her back, you know, in her room or in the kitchen, wherever she wants to sit and them I'm by myself.

Mothers who played *longer* with their children sometimes did not report positive motivations for their behaviors, but were concerned about controlling the children's behaviors.

Dyad 30

> She wants me to play with her all the time. She constantly wants people to talk with her. Where we live now there's no children around the area where she can play with. So it's either me or her brother or her dad when he's home.

Other *very interactive* mothers explained their behaviors as a consequence of personal needs of their own and not because of the developmental consequences for the child. In fact, no mother in any group accounted for their behaviors by referring to developmental needs of their children in the areas of literacy or school achievement.

Dyad 11

> She had a congenital defect in her heart. And she underwent open-heart surgery at the age of two. And we almost lost her at a month old. And so I'm kinda, I know I'm overbearing on her, you know? And I always want the very, very, very, very best. And I'm very protective over her. Still yet, even though she's well now, I still tend to do that.

Dyad 31

> Before my kids I was involved in worldly life. The lifestyle I had lived was different from the one today. I used to drink when I was younger. I never really wanted to be a mother. I never wanted to accept the responsibility. I guess at that moment in time when I had my older ones, I wanted to get out. I found I never could face the responsibility. I never could find myself. I thought, "Hey man, this is not me. I don't want to be home." I wanted to just get away, you know? But today I'm going through it [motherhood]. I'm feeling it. I'm new to the feeling and I'm trying to get used to the feeling. The feeling of being a mother. The mother type. I could have felt that before if I went through it with the two older ones. But I passed 'em. You see, I'm a mother that came in not prepared. I wasn't too settled myself. It's only me. If I could give the way it should have been with the two kids, they would have been okay maybe. But the life I lived before, active, you know, not accepting. Sometimes you do it wrong. And you hurt. You hurt the kids, you know? And you don't want to. But for me it's [motherhood] pressure.

Summary

Grouping mothers according to the duration of their mutual play behaviors did reduce the variability in this diverse group.

In general, Group 1, the low total duration group, also had the lowest interactive behaviors, especially as evidenced by the children. Within Group 1, the mothers who read for most of the session had children who were the least interactive and the most focused in their play, behaviors supporting the mothers' stated beliefs that their children were independent and did not need them. However, this was also the group with the lowest WPPSI verbal scores, with a mean that was 21 points lower than their average performance score.

Group 2's children were also very focused in their play, similar to Group 1, but they had the same level of interactive bids as the dyads in Group 3. They also had low WPPSI verbal scores compared to performance.

The Group 3 and 4 children had mothers who played with them a great deal, sometimes almost continuously. In Group 3, there was a higher absolute level of unfocused play by the children and a higher proportion than in Group 2 (by definition, play with the mother is *focused*). But mothers spoke of their children as being their "shadows" and of themselves wanting to behave differently toward this child than they had with others. Their children's unfocused behavior may have supported the mothers' feelings that the children needed their attention. In these two groups the WPPSI scores for verbal and performance were equivalent, hovering at the average level. The performance scores were significantly lower than those of the children in Groups 1 and 2.

CONCLUSION

Although this study of mother–child interactions and child competencies suffers the same flaws described in the introduction that beset other attempts to link maternal behaviors and child outcome, nevertheless we feel that it also makes an important contribution that may help guide future research.

In Hawaii, the low verbal test performance beginning in the preschool years is an established fact. Less attention has been paid to the other side of this fact, the heightened scores in the area of perception and spatial reasoning. Concern for the lower verbal scores may lead some to suggest specific parental practices as an intervention during the preschool years. The data we have collected speak to the likely futility of this tactic. Intervention must be congruent with the values and parenting practices of the culture in which parents and children reside.

Ochs (1987) has eloquently discussed the differences between the expectations of American middle-class parents and parents in Western Samoa, a culture similar to that of part-Hawaiian families. In Samoa, she asserts, children are given greater responsibility for being competent *before* interacting with their parents; while in America, parents assist their children's development by filling in missing information in their communicative exchanges. Mothers of part-Hawaiian children in this sample, appeared to be somewhat resentful that their children demanded play time from them. They did not appear to view mutual play as a developmental opportunity for them with the children.

As we considered this set of findings, two alternative models of the relationship between maternal behavior and child competence seemed possible. The first suggests that mothers' interactions with their children lead to verbal competence, and that verbal competence may be achieved at the expense of spatial and perceptual competence. In this model, one could argue that the part-Hawaiian children's early performance competence misled the mothers into thinking them more mature than they actually were; mothers withdrew from interactions and did not give the children the kind of verbal stimulation they needed. This is the model that would be supported by research done primarily in the mainland USA and Europe. The second model suggests that maternal granting of early independence was not a response but was in fact *causal* of the perceptual and spatial competence in their children.

If we had obtained significantly lower verbal scores in the children whose mothers did not interact with them, one would have stronger support for the first model. In fact, the verbal scores of the noninteractive group were only slightly lower than those whose mothers were highly interactive. On the other hand, their performance scores were significantly higher. It suggests that whatever set of factors is affecting the verbal performance of part-Hawaiian children, asking mothers to be more interactive will not ameliorate the problem. It also suggests that it is possible that early independence may well account for early competence in some areas that are not heavily verbal.

Obviously, we are not justified in making causal assertions. We do so only to spur others to look into this increasingly complex phenomenon, following some of the leads this study has suggested. Longitudinal data are critical.

Finally, we want to recommend this method of talking to mothers about the videotapes of themselves playing with their children. The procedure was effective in eliciting strategies, opinions and values from the mothers. It is apparent that the enormous variability encountered in mother–child interaction patterns derives from beliefs and theories specific for a given child or mother; these beliefs are related in logical ways to the behaviors mothers exhibit in situations such as ours. These kinds of interviews may well be critical to understanding the groups of mothers included in other studies of parent–child interaction.

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Chapter 7

Quality and Quantity of Maternal–Child Interaction*

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Young children come to preschool with a wide variety of language and cognitive skills relevant to the schooling experience. Childrearing conditions based on cultural, economic, and familial patterns of interaction and responsibility prepare children in different ways for this school experience. These interactional patterns are part of the ecocultural niche in which the child is nested (Weisner, Gallimore, & Jordan, 1988) and are a powerful force in determining the specific repertoires available to a child as he or she enters formal schooling. The particular concern in this study is a set of cognitive and language behaviors associated with Western definitions of school success.

Hawaiian families are generally described as ones in which the childrearing patterns rely on extended family members and older siblings as caretakers for the younger child. Others in this volume have shown the heterogeneity within Hawaiian families with respect to their childrearing patterns (this volume: Levin, Brenner, & McClellan; Farran, Mistry, Ai-Chang & Herman; Weisner, Gallimore, & Jordan; and Martini & Mistry). As traditional lifestyles continue to change because of economic and social changes in the Hawaiian communities,

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patterns of interactions are changing as well. One change involves the increased exposure to and incorporation of Western middle-class values and lifestyles. Though *middle class* does not automatically imply the breakdown of traditional Hawaiian patterns of childrearing, most middle-class families have more education and have smaller families. They also may be more apt to live in an urban rather than a rural environment. They also may have less contact with extended family members. These socioeconomic factors may play an important role in the development of cognitive skills in children as part of a child's developmental environment. In the present study, qualitative and quantitative components of maternal interaction are examined as they relate to the cognitive and linguistic competence of entering preschool Hawaiian children.

Evidence of the importance of maternal interactional style has been demonstrated by a number of longitudinal studies. Clarke-Stewart (1973) investigated the behavioral and verbal interactional styles of 36 lower-class mothers and their children, age 9–18 months, and concluded that "the amount of verbal stimulation directed toward the child significantly influenced the child's intellectual development, particularly the ability to comprehend and express language" (pp. 92-93). Time spent by the mother playing with the child also influenced the complexity of the child's play.

Others such as Elardo, Bradley, and Caldwell (1975, 1977) have reached similar conclusions concerning the relationship between a child's home environment and the child's language development. The child's home environment was assessed at 6 and 24 months using the Home Observation for Measurement of the Environment (HOME; Caldwell, Heider, & Kaplan, 1968). Language skills were measured at 3 years of age using the Illinois Test of Psycholinguistic Abilities. The results demonstrated a strong relationship between language development and the HOME subscales of Emotional and Verbal Responsivity of the Mother, Provision of Appropriate Play Materials, and Maternal Involvement with Child.

More recently a longitudinal study conducted by Olson, Bates, and Bayles (1984) followed 124 mother–infant dyads of varying socioeconomic status from 6 to 24 months of age. The authors concluded that the frequency of maternal verbalizations and positive physical contact were most predictive of later cognitive language competence at every age.

These longitudinal studies indicate that the degree of both verbal and physical stimulation (responsivity) supplied by the mother during the first years of life is predictive of the child's later cognitive and language competence. More recently, Richman, LeVine, New, Howrigan, Welles-Nystrom, and LeVine (1988) highlighted the cultural context of maternal behavior with infants and concluded that frequency of maternal talking may be a function of cultural variations in speech norms and beliefs that lead to differing patterns of verbal interaction with children. Verbal and visual interaction are more characteristic of Western populations in which mortality rates are low and formal education of mothers is relatively high. Richman et al. (1988) suggest that more agrarian cultures delay such communication until infants begin to utter their first words. A higher priority is given to physical care. Though cultural patterns emerged from the data, considerable heterogeneity could be found within the samples.

Within Western cultures, one factor which may account for a portion of the heterogeneity is the broadly defined category of socioeconomic status (SES). Tough (1982) and Blank (1982) have argued that the principal social class difference in maternal speech is the responsivity of mothers to their children's speech. Schachter (1979) found two variables to account for the major differences between middle- and low-income dyads: maternal responsiveness to the child, and whether the mothers were talking to the child or with the child. Based on Tough's position, Farran (1982) concluded that "participation in dialogues with an adult where several turns are taken on the same topic is crucial to the development of both cognitive and linguistic abilities" (p. 33).

Farran and Haskins (1980) examined mother–child dyadic differences according to SES. They concluded: "Summarizing across these results would seem to indicate that middle-income mothers are more involved, less commanding, more indirectly controlling, and more positively reinforcing of their children's behavior" (p. 781). Their 1980 study of mother–child interaction patterns in their lower and middle-class dyads focused on the initiation of interactions as well as the responses by each member of the dyad. Their findings imply that the differences found between social classes in interactional styles are of a quantitative nature. That is, that middle-class mothers interact more with their children than lower class mothers; and it is these differences in the degree of involvement that account for the cognitive differences in their children. It appears that mothers of each social class have the full range of potential behaviors in their repertoire but don't engage in those behaviors at the same rate.

While Farran and Haskins did examine the reciprocal and quantitative nature of dyadic interactions, they did not attempt to examine the nature of quality of the verbal interactions with the dyads as measured by the complexity of verbal interactions and the types of verbal teaching and language skills employed by the mothers with their children.

Quantitative differences in speech patterns may be less important than children's exposure to different ways language is used in discourse. Scarborough and Wyckoff (1985), for instance, found little added effect for "motherese" in children's language development. Individual differences in the amount that mothers simplify language structures may be less important than that children are exposed to it.

Others such as Blank and Franklin (1980) and Sigel (1982) have suggested that qualitative differences in mothers' language can have a dramatic effect on children's cognitive development. Blank and Franklin found that, as the level of utterances used by the mother became more complex, less appropriate (or less adequate) responses were made by the children. Thus, children were more likely to respond to initiations that corresponded to the language skills they had already mastered (Level I and II). It was also noted that mothers frequently engaged their children at language levels one or two steps above the language levels most frequently emitted by their children. This observation is consistent with the Vygotskian concept of the zone of proximal development (Vygotsky, 1978) and with the hypothesis that more complex language skills are gradually introduced and reinforced by the parent.

Alternately, Sigel's system defines language complexity within maternal–child interactions as a function of the degree to which the speaker's representation of concepts is distant in time and place from the speaker. This distancing concept is related to Piagetian concepts of the development of representational thought and is, therefore, tied into concepts of cognitive development.

Distancing strategies can be broken down into three levels, high, intermediate, and low, and can occur in both statement and question form. *Low-level distancing strategies* refer to demands for the individual to observe, label, produce information, describe, and demonstrate. *Intermediate-level distancing strategies* refer to demands for the individual to sequence events, reproduce events, compare (describe similarities, describe differences, infer similarities, and infer differences), and combine information. Lastly, *high-level distancing strategies* refer to demands for the individual to propose alternatives, resolve conflicts, evaluate outcome, infer, generalize, transform to change, plan, and conclude. Sigel also included what he termed *task-management statements* in his coding system. While not making any cognitive demands on the listener, task-management statements demand that the listener follow the speaker's command (Sigel, McGillicuddy-DeLisi, & Johnson, 1980, pp. C21-C34).

In several studies, Sigel and his associates (Sigel & Olmstead, 1970; Olmstead & Sigel, 1970; McGillicuddy-DeLisi, Sigel, & Johnson, 1979; Sigel, 1982) have concluded that low-income mothers, in general, interact with their children by utilizing predominately low-level and occasionally intermediate-level distancing strategies. Meanwhile, middle-income mothers, in general, are more likely to employ predominately high-level and occasionally intermediate-level distancing strategies. It appears then, that these differences in language complexity either may suggest differences in maternal abilities, differences in the apparent goals established by mothers for the tasks, or differential responses by mothers based on accurate readings of differing abilities and language skills of their children.

Slater (1983) developed a 6-week program for training high-risk mothers to use different distancing strategies as an empirical test of the presumed causal relationship between maternal distancing and a child's cognitive skills. Sixty white, low-SES mother–child dyads were matched and randomly assigned to one of three conditions: a control condition, a low-level distancing condition, and a high-level distancing condition. Children in both experimental groups scored significantly better on all three subscale scores (Verbal, Quantitative, and

Memory) of the McCarthy Scale for Children's Ability as compared to the control group. Moreover, the scaled scores indicated that the high-level distancing group was more successful in enhancing their children's ability to score well on the tests of Numerical Memory, Verbal Memory II, and Opposite Analogies than either the low-level distancing or the control group.

The author (Slater, 1983) pointed out, however, that the high-level distancing group verbally interacted significantly more frequently than the control group. The questions of whether the amount of interaction was important, not just the verbal skills utilized, remains unanswered. Caution should be exercised in interpreting these results until the interactive effects of the influence of the quantity of interactions, as well as the quality of verbal interactions, can be further defined.

The purpose of the present study was to further examine the relationships between the quality of maternal–child verbal interactions and the quantity of maternal involvement. Both of these variables were then related to measures of the children's cognitive performance.

A methodology similar to that used by Farran and Haskins (1980) was used. In the present case, 40 Hawaiian and part-Hawaiian dyads from low-SES and middle-SES backgrounds participated. These dyads were videotaped in a seminaturalistic (free-play) setting for 20 minutes and in a task-oriented (teaching) setting for 10 minutes. The inclusion of the task-oriented session allowed an examination of maternal behavior across both an unstructured and structured task. In previous work (e.g., Farran & Haskins, 1980; Sigel et al., 1980) the maternal behaviors in question had only been examined in one situation or the other.

METHOD

Subject and Subject Selection

Forty 46- to 59-month-old ($\bar{X}$ = 53 months) Hawaiian children and their mothers participated in this study. Half of the mother–child dyads were drawn from 20 families who had children enrolled in the Prekindergarten Educational Program which was a laboratory preschool offered by Kamehameha Elementary Schools (KES) for educationally at-risk 4-year-olds. The remainder of the mother–child dyads were drawn from part-Hawaiian families with older siblings enrolled in the middle-class, middle-SES dyads and 20 low-SES dyads participated. Gender of the preschool children was counterbalanced such that each of the SES groups had approximately the same number of males to females (low-SES, 8 males and 12 females; middle-SES, 11 males and 9 females, for a total of 19 males and 21 females). Fourteen low-SES and 6 middle-SES dyads were drawn from PREP. The remainder in each cell was drawn from KES.

There were real differences between the two groups of subjects reflective of the differing Hollingshead Scale scores and income levels. These differences are consistent with the dichotomies between groups inherent in their differentiation by SES. Low-SES mothers were more likely to have less education, be single, and be from lower income households than were their middle-class counterparts. Other variables such as the birth order of the target child and maternal age were not significantly different by group.

Procedure

Once identified as subjects for the study, mothers were asked to schedule a 1½ hour block of time with the experimenter at the laboratory preschool. This time was spent orienting the mothers to the nature of the study and completing any demographic information that was missing. Afterward, videotaping of mothers with their children began in a small room adjacent to the classroom which had been equipped with remote control videotaping and microphone equipment. Each videotaping session lasted approximately 30 minutes. Of the 30 minutes, the first 20 minutes were spent with the mother and the child engaged in a free-play session; and the remaining 10 minutes were spent with the mother and the child engaged in a task-oriented session.

Prior to the videotaping session, time was spent making the mother comfortable in the setting and gathering any missing information. The experimenter also explained to the mother that she was interested in seeing how children play with toys and their mothers in the free-play session. The experimenter instructed the mothers to act as they would normally with their children at home. The dyads were then left alone for 20 minutes and the videotaping session began.

At the end of the 20-minute period, two experimenters introduced a block-building task to the mother and child. They were seated at the children's worktable in the video room. The tasks consisted of a set of three-dimensional building blocks and picture cards with models of a specific block design; then the mother was instructed to help her child build the models.

Measures Taken

The mother's level of distancing and the mother's degree of involvement were separately coded from the videotapes. These two sets of data were then merged together.

Additional child measures included a full battery of the Weschler Preschool and Primary Scale of Intelligence (WPPSI) and the Peabody Picture Vocabulary Test/Revised (PPVT-R) administered within three days of videotaping. SES and family measures included: family income, parent education, parent occupation, family size, birth order of the target child, primary caretaker of the child, and more. This information was used to determine a two-factor index of socioeconomic status using: (a) the Hollingshead Two Factor Index of Social Position, and (b) the Native Hawaiian Profile.

Levels of Distancing Coding

Two observers were trained to code levels of distancing. Each maternal utterance was coded. Individual coders were required to reach 90% agreement prior to separate coding of these experimental tapes. One observer was designated the primary coder and then coded each tape. The second observer was designated the checker and coded approximately 25% of the tapes. Reliabilities were computed by dividing the number of agreements by the number of agreements plus disagreements. Reliability measure per tape ranged from 89.9% to 94.2%, with a mean of 90.25%.

Coding Degree of Involvement

Three observers were trained to code maternal involvement. The coding was completed using protocols developed by Farran and Haskins (1980). The code was determined to be in agreement if they fell within a 2-second window of either side of the actual coded time. Therefore, codes of less than 4 seconds were eliminated from the analysis since the window of reliability exceeded the actual duration. Reliability was computed by dividing the number of agreements by the number of agreements plus disagreements. For the codes of maternal involvement (mutual activity, passive participation, independent play, and no clear activity), the reliability measures ranged from 75.15% to 95.29%, with a mean of 82.59%.

RESULTS

General Maternal Interactions

The results of this study will be discussed in four sections. We were first concerned about the effects of SES and session type on the total amount of speech emitted by the mothers. There is no main effect for socioeconomic status overall. Middle-SES mothers and lower SES mothers taken together use approximately the same amount of speech independent of session. There is, however, a main effect for sessions with mothers talking at a higher rate in the task-oriented session over the free-play session (Manova $F(1) = 66.295$, $p < .001$). There is also a session by SES interaction ($F(1) = 4.075$, $p < .05$). Low-SES mothers increased their rate of speech from free-play to task-oriented sessions significantly more than middle-SES mothers (see Figure 7.1).

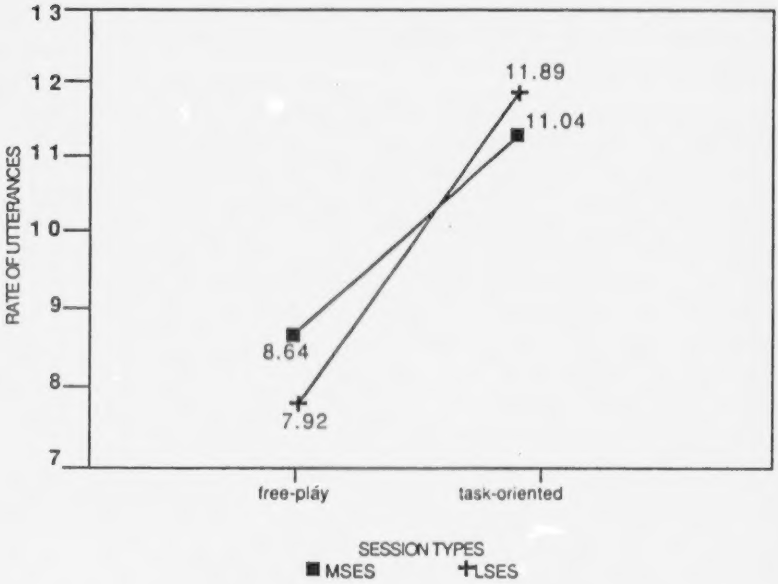

Figure 7.1. Outcome of Rate Utterances
Rate per Minute of Utterances Emitted by Middle-SES and Low-SES Mothers During Free-Play and Task-Oriented Sessions

Maternal Degree of Involvement

Maternal involvement was coded using the Farran and Haskins coding system. The potential categories included: mutual activity, passive participation, independent play, and no clear activity.

In the course of coding the interactions, it became evident that all the mothers during the task-oriented session were fully engaged in the task with their children. Most mothers were exclusively engaged in *mutual activity*. These results, then, are discussed only for the free-play session with two modifications to the coding system. First, there were almost no episodes of *no clear activity*, and this category was eliminated. Secondly, any episode that was less than 4 seconds in duration had been eliminated, because this was the window for determining reliability.

First, analyses which use the frequency of episodes as a dependent variable are reported followed by those which use duration as a dependent variable. Frequency was determined by summing the number of times mothers were in each involvement condition during free play.

Results indicated that low-SES mothers were in mutual activity more frequently than middle-SES mothers ($F(1) = 3.87$, $p < .05$). There were no differences found by SES in the frequencies of episodes of passive participation and independent play. For the sample as a whole, frequency of passive participation was greater than that of mutual activity ($t(39) = 4.40$, $p < .000$); and independent play ($t(39) = 5.26$, $p < .000$). The frequency of mutual activity episodes was equivalent to that of independent play.

With respect to duration, no SES differences were found in the duration of mothers and children involved in any of the different conditions. With the sample taken as a whole, mothers spent more time in mutual activity ($t(39) = 3.61$, $p < .0001$) and passive participation ($t(39) = 2.84$, $p < .007$) than in independent play. Mothers spent comparable amounts of time in mutual activity and passive participation.

It appeared then, that low-SES mothers engaged in more separate episodes of mutual activity but there were no differences in the total amount of time they spent in mutual activity. Additionally, there were no SES differences in the frequency or the duration of passive participation and independent play.

Maternal Use of Distancing Strategies

All maternal speech was coded between one of the following categories: Task management statements, low distancing, immediate distancing, and high-level distancing. Percentages of all of the categories were computed by dividing the frequencies of each category's occurrence by the total number of utterances during each session. The results of the MANOVA revealed a main effect for SES ($F(4) = 5.32$, $p < .002$), and a main effect for session ($F(4) = 2.54$, $p < .057$). Separate univariate analyses of variance were then conducted on each distancing variable.

With respect to task management statements, there was a highly significant effect for session ($F(38) = 82.95$, $p < .000$) in which mothers increased their use of task-management statements from the free-play situation to the task-oriented situation. In addition, low-SES mothers were more likely to use task management statements than were their middle-SES counterparts ($F(1.38) = 16.15$, $p < .000$); and the interaction between session and SES was not significant (see Figure 7.2).

With respect to low-level distancing strategies, there was a significant effect for session in which mothers used fewer low-level distancing strategies in the task-oriented sessions than they did in free play ($F(1.38) = 12.42$, $p < .001$). There was neither a session effect nor an interaction effect in this particular analysis (see Figure 7.3).

Mothers increased their levels of intermediate-level distancing speech from the free-play session to the task-oriented session ($F(38) = 14.07$, $p < .001$). In addition, middle-SES mothers employed more intermediate-level distancing

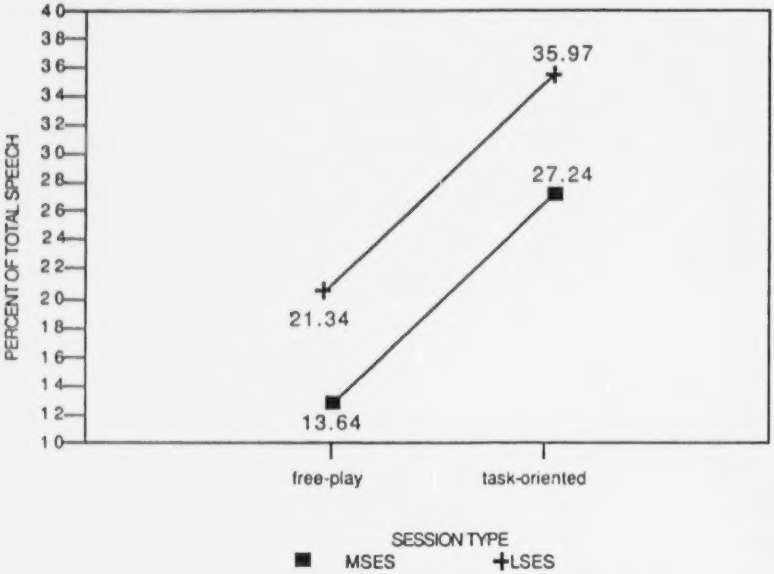

Figure 7.2. Outcome of Task-Management Statements
Percentage of Total Speech coded as Task Management Statements Emitted by Middle-SES and Low-SES Mothers During Free-Play and Task-Oriented Sessions

strategies than did their lower SES counterparts ($F(38) = 60.71$, $p < .000$). There was a marginally significant interaction suggesting that middle-class mothers increased their rate of intermediate distancing moving from the free-play to the task-oriented session over their low-SES counterparts ($F(38) = 3.75$, $p < .06$) (see Figure 7.4).

The results of the univariate analysis of variance on high-level distancing strategies were particularly interesting. Mothers, in general, decreased their use of high-level distancing strategies from the free-play situation to the task-oriented session ($F(38) = 19.97$, $p < .000$). Middle-class mothers also employed more high-level distancing strategies than did their low-SES counterparts ($F(38) = 3.91$, $p < .05$). Additionally, there was a session x SES interaction in which middle-class mothers dramatically decreased their use of high-level distancing strategies from the free-play to the task-oriented session ($\bar{x} = 18.71$ to 9.71), while the effect was not as strong for the lower SES mothers ($\bar{x} = 12.67$ to 8.93) (see Figure 7.5).

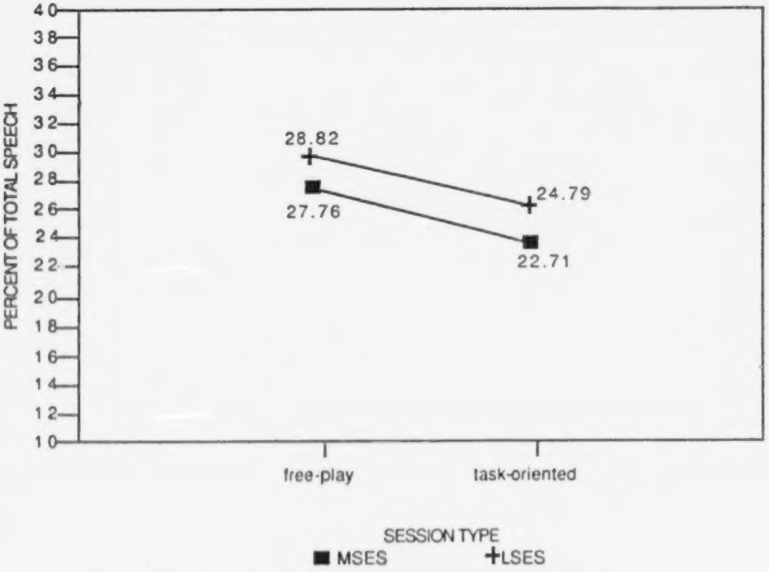

Figure 7.3. Outcome of Low-Level Distancing
Percentage of Total Speech Coded as Low-Level Distancing Strategies Emitted by Middle-SES and Low-SES Mothers During Free-Play and Task-Oriented Sessions.

Relationship of Maternal Levels of Distancing, Maternal Degree of Involvement, and Children's Performance Scores

The previous set of analyses suggested that the socioeconomic status and the activity setting in which parents and children were engaged both influenced the type of speech that the mother used when interacting with her child. This next set of analyses extended our understanding of the use of speech by the mother in directing the child's activities by relating it to the maternal degree of involvement with the child during the free-play activity and with the children's performance scores on a battery of cognitive and language measures.

Taking the sample as a whole, all maternal utterances (task management, low-level, intermediate-level, and high-level distancing strategies) were entered into a Pearson Product Moment Correlation Matrix with children's performance on the PPVT-R, the WPPSI Full-Scale, the WPPSI Verbal, and the WPPSI Performance Subscale Scores. The use of high-level distancing strategies was

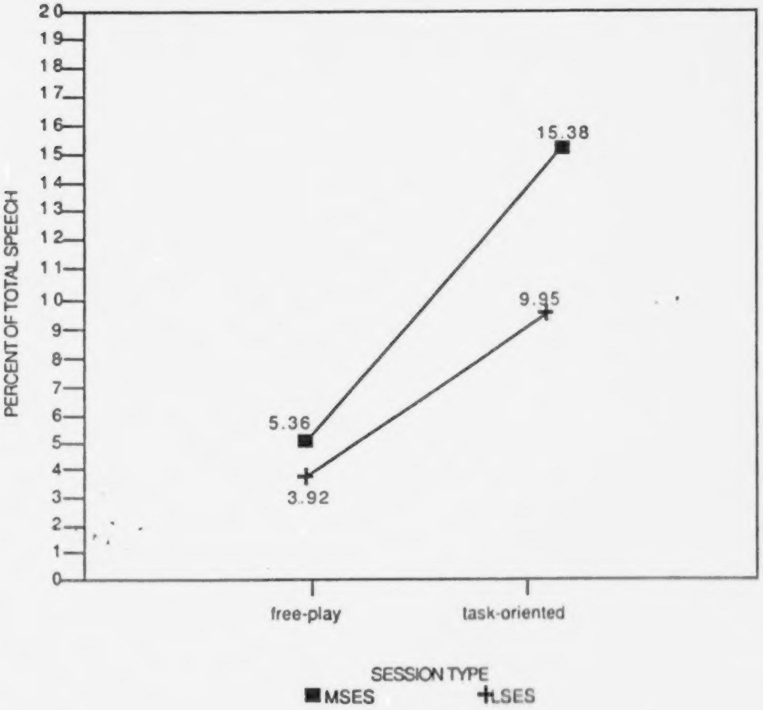

Figure 7.4. Outcome of Intermediate-Level Distancing
Percentage of Total Speech Coded as Intermediate-Level Distancing Strategies Emitted by Middle-SES and Low-SES Mothers During Free-Play and Task-Oriented Sessions

positively correlated with the WPPSI Full-Scale ($r = .57$, $p < .000$), the WPPSI Verbal Subscale ($r = .40$, $p < .05$) and the WPPSI Performance Subscale ($r = .59$, $p < .000$).

Intermediate-level distance strategies were positively correlated with a PPVT-R ($r = .25$, $p < .059$), the WPPSI Full-Scale ($r = .32$, $p < .021$), WPPSI Verbal Subscale ($r = .30$, $p < .028$), and the WPPSI Performance Subscale ($r = .27$, $p < .048$). Low-level distancing strategies were negatively correlated with the WPPSI Full-Scale ($r = -.30$, $p < .031$), and the WPPSI Verbal Subscale ($r = -.36$, $p < .011$) and the WPPSI Performance Subscale ($r = -.62$, $p < .000$).

Pearson Product Moment Correlations were also computed to investigate whether maternal utterances were more highly associated with children's outcome measures during free-play or task-oriented sessions. A series of

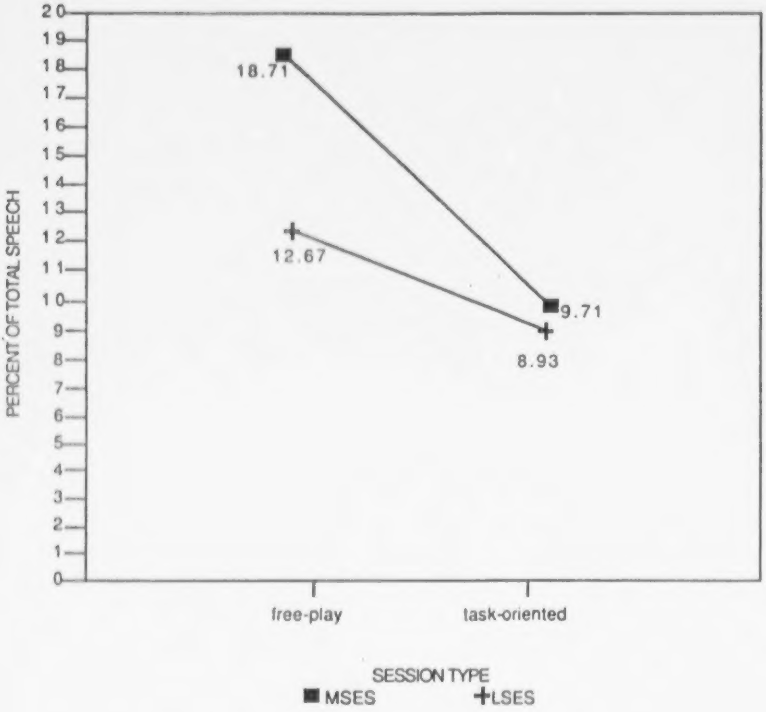

Figure 7.5. Outcome of High-Level Distancing
Percentage of Total Speech Coded as High-Level Distancing Strategies Emitted by Middle-SES and Low-SES Mothers During Free-Play and Task-Oriented Sessions.

students *T* tests for dependent *r*'s were performed to compare the correlations of maternal low-level, intermediate-level, high-level, and task-management statements during free-play and task-oriented sessions to children's performance. Low-level distancing during task-oriented sessions was more negatively associated with children's performance on the WPPSI Full-Scale ($t(37) = 2.40$, $p < .05$), than free-play. Maternal task-management statements during free-play were more negatively associated with children's PPVT-R, WPPSI Full-Scale, and WPPSI Verbal Subscale scores than during task-oriented sessions, ($t(37) = 2.12$, $p < .05$), ($t(37) = 3.00$, $p < .01$), and ($t(37) = 3.32$, $p < .01$), respectively.

Finally, Pearson Product Moment correlations were performed to investigate whether the association of maternal utterances to children's performance differed according to SES from the correlation of the group as a whole. The series of student's *T* tests for dependent *r*'s were performed to compare the significant correlations. No differences in association according to SES were revealed.

Next, the time the mothers spent in mutual activity, passive participation, and independent play with her son or daughter was correlated with the child's WPPSI and PPVT-R scores. The results revealed that the amount of time in mutual activity was negatively correlated with the WPPSI Performance Subscale ($r = -.34$, $p < .017$), while the time spent in passive participation was positively correlated with the same measure ($r = .26$, $p < .051$). No other significant observations including those related to the effects of SES were found.

The relationship of the mother's speech to her degree of involvement was then reviewed. No significant correlations were found between the use of low- or intermediate-distancing strategies and task-management strategies with the mother's time in mutual activity, time in passive participation, or time in independent play. High-level distancing strategies, however, were negatively correlated with time in mutual activity ($r = -.41$, $p < .004$).

The next set of questions investigated the degree to which the use of distancing strategies, maternal involvement, and socioeconomic variables could predict the children's score on the PPVT-R, the WPPSI Full-Scale, WPPSI Verbal Subscale, and WPPSI Performance Subscale measures. To this end, a stepwise multiple regression was performed in which the dependent variables were the test scores; and the predictor variables were maternal levels of distancing, maternal involvement, and socioeconomic factors. With respect to the PPVT-R, the only major predictable variable for the children's scores was maternal distancing (final multiple $r = .456$, final $R^2 = .32$). The remaining variables did not contribute any significant variance to the regressions. The major predictor variable for children's WPPSI Full-Scale scores was maternal distancing which accounted for 72% of the variance (final multiple $r = .85$, $R^2 = .72$). The second most significant predictor was age the child started day-care, followed by mother's age. All were positively correlated with WPPSI Full-Scale.

On the WPPSI Verbal Scores a different pattern was observed. Age the child started day-care was the best predictor of child's performance on the WPPSI Verbal Score followed by maternal distancing. These variables accounted for 45% of the variance, (final multiple $r = .67$, final $R^2 = .45$). Finally, the stepwise regression on children's WPPSI performance scores accounted for 69% of the variance (final multiple $r = .83$, $R^2 = .69$). Maternal distancing was the strongest predictor of children's WPPSI Performance Scores followed by mother's age. Summarizing across regression analyses, the mother's deferential use of distancing strategies was a strong predictor of children's performance on the PPVT-R and the WPPSI Full-Scale, Verbal and Performance Scores. Maternal degree of involvement did not account for any significant additional variance in these analyses.

Effects of Involvement Category on Maternal Verbalization, A Conditional Probability Analysis

An important issue of interest within the study was the effect of context on mother's behavior. It was already reported that mothers' talk to their children changed from one task to another. It was also of interest to observe when mothers differentially verbalized depending upon their state of involvement with their children. The data for this study were scored in such a way to allow for an examination of this question using the system developed by Farran and Haskins (1980). A three-step analysis was conducted in order to determine whether middle- and lower SES mothers verbalized deferentially within the three involvement condition. First, conditional probabilities were calculated for each level of distancing within each involvement condition. Next, contrast scores were computed by subtracting the probability of one level of distancing during one involvement condition from its probability during another involvement condition. Finally, these contrast scores were used as dependent variables in a repeated measures MANOVA to test the differences in profiles of levels of distancing across involvement conditions. These analyses were performed only on behavior during the free-play session as there was no differentiation in maternal involvement in the task-oriented session.

Since no SES differences in the use of task-management statements by involvement condition were found, the sample was collapsed and analyzed as a whole. Mothers used more task-management statements when they were in mutual activity than when they were in passive participation ($t(39) = 2.46$, $p < .019$), and independent play ($t(39) = 3.75$, $p < .001$). Mothers also used more task-management statements while in passive participation than when they were in independent play ($t(30) = 2.60$, $p < .013$) (see Figure 7.6).

Since there were no SES differences for the conditional use of low-level distancing by involvement, the low-level distancing profiles were examined for the sample as a whole using Students *T* tests. Mothers used more low-level distancing strategies during mutual activity than when they were in passive participation ($t(39) = 5.35$, $p < .000$), and independent play ($t(39) = 3.97$, $p < .000$). Mothers used comparable amounts of low-level distancing strategies during passive participation and independent play (see Figure 7.7).

SES was not a significant factor in the conditional use of intermediate-level distancing strategies by involvement conditions so the sample was collapsed again for this analysis. Mothers utilized intermediate-level distancing strategies at an equivalent rate across all of the involvement conditions (see Figure 7.8).

No SES differences were apparent for the use of high-level distancing strategies by involvement condition so the group was examined as a whole. As with the intermediate-distancing strategies, mothers utilized high-level distancing strategies equally across all three involvement conditions (see Figure 7.9).

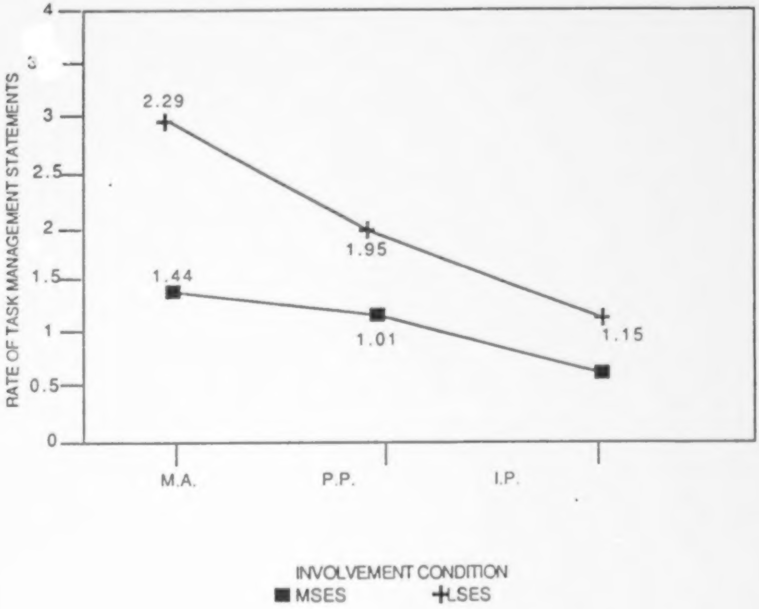

Figure 7.6. Task-Management Across Conditions
Profile of Task Management Statements for Middle-SES and Low-SES Mothers Across Involvement Conditions (M.A. = Mutual Activity; P.P. = Passive Activity; I.P. = Independent Play).

DISCUSSION

Mothers were sensitive to session demands in this study and modified their interactions with their children to fit the requirements of the task before them. This was true of both middle- and lower class SES dyads. The behavior of mothers in the free-play situation suggested that the behaviors of interest, both verbal and interactional involvement, were potentially available to mothers from both SES groups. The differences in interactions were a function of *degree*, not of *kind*. Mothers from both groups appropriately interpreted the task-oriented session as one which required physical engagement with their children. All mothers engaged in mutual activity to the extent that there was no appreciable variability in their behavior during this session.

Both session and SES demands affected maternal language. Mothers increased intermediate-level distancing strategies and task-management statements from the free-play to the task-oriented session and decreased high- and

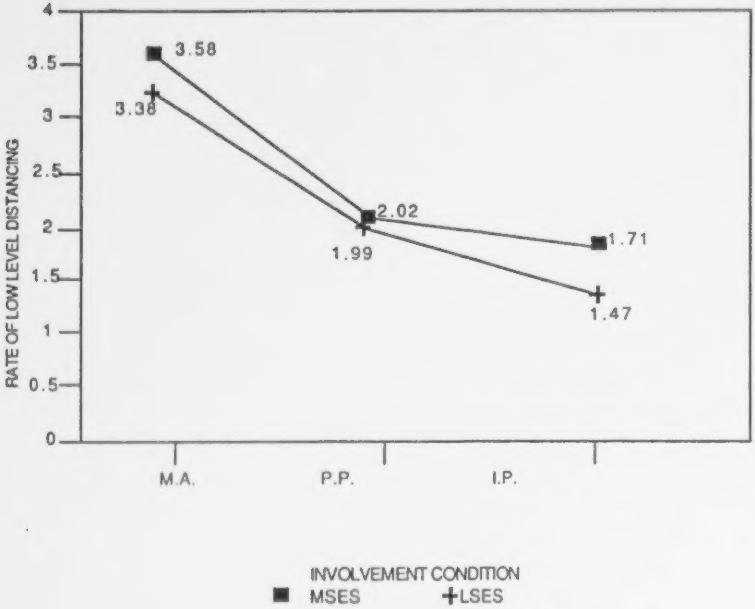

Figure 7.7. Low-Level Distancing Across Conditions
Profile of Low-Level Distancing Strategies for Middle-SES and Low-SES Mothers Across Involvement Conditions (M.A. = Mutual Activity; P.P. = Passive Activity; I.P. = Independent Play).

low-level distancing strategies. To successfully teach block building for instance, mothers had to be more directive (task-management statements) and encourage their children to sequence, compare, and number which are all intermediate-distancing strategies. Low-level and high-level strategies were less relevant and hence, dropped out of the interaction.

SES continued to play a major predictive role in the type of language used by the two groups of mothers. Rates of speech for middle- and lower SES mothers were comparable, suggesting that quantity of speech alone was not as important as the information being transmitted. Mothers from both SES groups used all categories of speech, but each was more likely to use those compatible with her preferred style of interaction with her children. Middle-SES mothers verbally engaged their children using more cognitively demanding language than low-SES mothers, who used language that basically directed and commanded the listener rather than inviting comparisons or leading the listeners to draw their own conclusions. Results of the regression analysis, however, demonstrate the

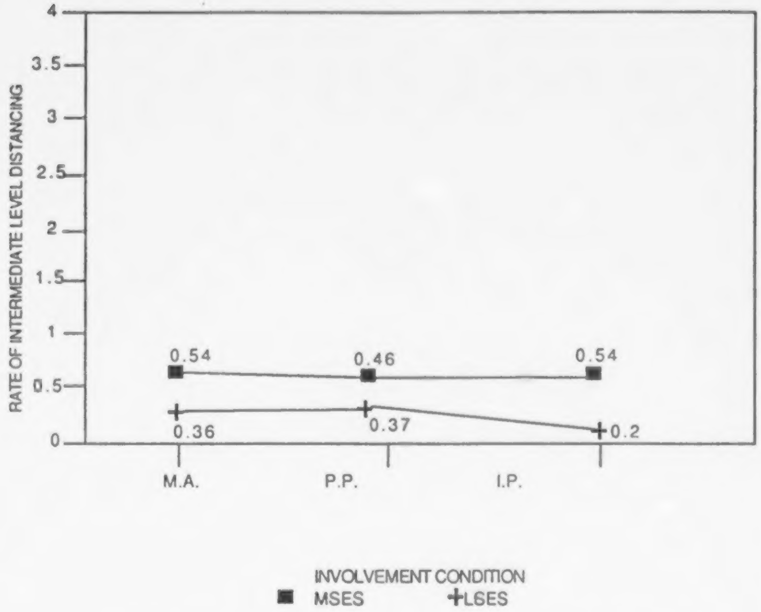

Figure 7.8. Intermediate-Level Distancing Across Conditions Profile of Intermediate-Level Distancing Strategies for Middle-SES and Low-SES Mothers Across Involvement Conditions (M.A. = Mutual Activity; P.P. = Passive Activity; I.P. = Independent Play).

heterogeneity of skills and behavioral patterns within each SES group. SES did not account for the major variance in any of the cognitive tests. Rather, the verbal strategies of the mothers were the major contributing factor. Though this variable is significantly related to SES, considerable individual variability remains.

The conditional probability analyses suggested that less cognitively complex speech is influenced by the mother's physical involvement while more cognitively complex language is not. Thus, the mother could be relatively uninvolved with the child physically but be very involved cognitively. The converse was also true. For example, there were more instances of low-level distancing and task management during the mutual activity periods than during the passive participation periods.

With respect to physical interactions, the more mothers were physically engaged with their children (e.g., mutual activity), the lower the child's WPPSI performance score. The converse was true with mothers who were less engaged (e.g., passive participation). Mothers who were less imposing and who stepped

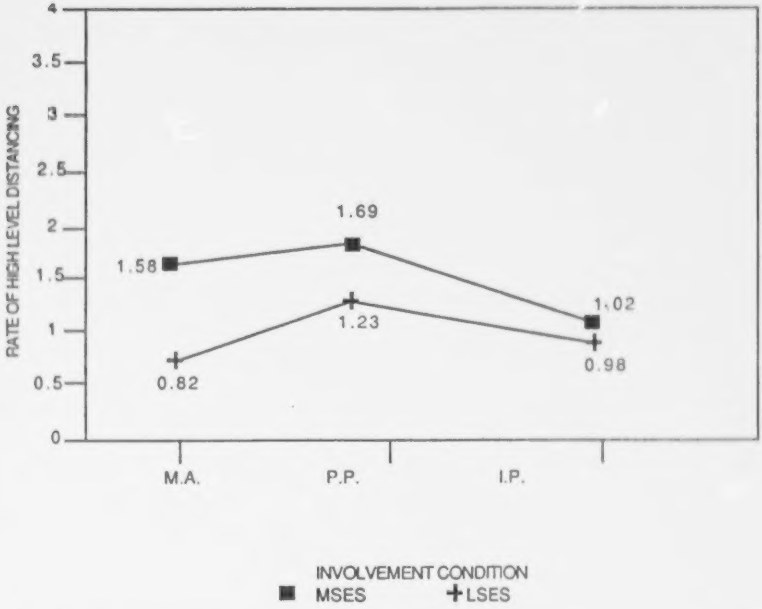

Figure 7.9. High-Level Distancing Across Conditions
Profile of High-Level Distancing Strategies for Middle-SES and Low-SES Mothers Across Involvement Conditions (M.A. = Mutual Activity; P.P. = Passive Activity; I.P. = Independent Play).

back and watched their children may have been promoting more independent processing and problem-solving skills. Mothers who were able to modulate their interactions by moving in and out of physical engagement and who offered assistance only when they felt it was necessary had children with higher performance scores. They may have been better able to read their children's competencies and assist in a more fine-tuned manner. The data also suggest that it is not just a question of when the assistance is provided, but also a matter of what help is given. Maternal verbalizations that are directive and commanding provide the child with little opportunity to explore alternatives or to think about a problem. This type of verbalization is negatively correlated with children's performance of standardized tests. Alternately, verbalizations which create an opportunity for interaction and which suggest alternatives or engage the child in active problem solving are positively related to success on standardized tests.

Children are not just learning to do a task but, at the same time, are learning about the task and a more generalized approach to problem solving. In this sense, the two differential uses of distancing strategies are examples of the

Vygotskian concept of the zone of proximal development. In the zone of proximal development, learning occurs when a more competent person assists another through a task by helping the less competent person organize the material in a way which will allow him or her to complete the assignment with minimal assistance. The less competent person is assisted to a higher level of cognitive functioning than he or she could achieve independently. The less competent person has access to and can learn from the cognitive skills of the other. This differs from telling someone how to do something, doing it for them, or letting them discover a solution through trial and error. It is this social context of cognitive learning that Vygotsky has stressed and which is a powerful component in the notion of distancing. The importance of this relationship between the child's cognitive abilities and the use of distancing on the part of the mother is underscored by the regression analysis results in which the best predictors of cognitive competence on the part of the children was the mother's use of distancing strategies.

What then does this imply for the learning environments of young Hawaiian children? As others in this volume have suggested (Farran et al., and D'Amato & Inn, this volume), Hawaiian children develop in a very complex social world in which there are many teachers and many players. Mothers may not be the primary caretakers of their children. This is not only the case for Hawaiian children, but it is becoming more universally true for children across the country within a variety of ethnic and cultural groups. In the Hawaiian example, there may be cultural reasons for a more diffuse caretaking responsibility. In other cases there may be more economic rather than cultural reasons for this difference.

The more opportunities that are available to encourage the young child through effective zones of proximal development the more likely that child will develop relevant cognitive skills. Some of these skills will be school relevant and others will not. Many of these learning opportunities may not be verbally mediated. However, those which are predictive of school success and are tapped on standard measures of cognitive ability have a strong press for language mediation.

If one thinks of a range of behavioral repertoires needed by a child in school, language and cognitive skills are but one. Parents (mothers) are one avenue through which these skills may be taught. Siblings, playmates, and extended family members are other equally available and relevant sources of knowledge. To the degree this cauldron of potential learning opportunities provides a rich array of experiences, children will be better prepared for school success.

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Chapter 8

The Relationship Between Talking at Home and Test Taking at School: A Study of Hawaiian Preschool Children

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PURPOSE

The purpose of this study was to look into home settings to compare the language experiences of relatively successful Hawaiian children with those of less successful children. The successful children had performed well on standardized language tests at the beginning and end of preschool and were considered to be well prepared for school. The less successful children had performed poorly on these tests and were considered to be less prepared for school language demands.

We videotaped 20 children (10 well-prepared and 10 less-prepared children) at home and at school during the last half of their preschool year. We transcribed and analyzed their videotapes. In this chapter we report on 6 of the 20 children.

In doing this study we were motivated by the need to provide information for program planning. Therefore, we took a very pragmatic approach in planning the focus. We wanted to delineate features of home language use that seemed to prepare children for school language and literacy. We set out to do four things:

1. Determine which language skills were tested on the tests given to the children.

2. Describe general differences between the home language experiences of the two groups of children.
3. Describe typically occurring interactions at home to determine the relationship between *how* children used language and the complexity and forms of language they used.
4. Determine whether well-prepared children received more practice using the particular language skills tested on the tests.

BACKGROUND

An assumption underlying recent educational research and program development is that children who come to school prepared for the "language of schooling" have an easier time succeeding on tests and tasks. Alternately, children who encounter the "language of schooling" for the first time at school will begin school with a handicap (Blank, Rose, & Berlin, 1978; Tough, 1982; Feagans, 1982; Farran, 1982). The "language of schooling" is considered to be a linguistically and logically explicit, textually cohesive way of talking. It is contrasted with informal communication, in which speakers use contextual cues, nonverbal communication, and implicit understandings to convey meaning (Michaels & Collins, 1984; Tannen, 1982).

Researchers have delineated a set of communication routines which occur frequently in American schools (Blank, 1982). They have related these to language routines children and parents engage in in American, middle-class homes (Anderson, Teale, & Estrada, 1980; Copple, Sigel, & Saunders, 1979). The researchers suggest that middle-class children learn to use language in specific ways before they enter school, and that these ways relate directly to the language of schooling.

According to the descriptions, middle-class parents interact frequently and in a quasi-egalitarian way with their children. They consider young children to be competent, interactive partners and allow them to participate in adult conversations. In playful interactions, they encourage children to label objects, describe features of objects (such as color or shape), make comparisons, analyze what they see, speculate about causes and effects, and predict the future (Blank et al., 1978). They ask young children to report on events, tell stories, support points of view, and demonstrate verbal prowess. They encourage children to engage in fantasy play, guess about the unknown, and speculate about the future.

Children, in turn, expect adults to listen. They monopolize the attention of adult visitors. They strike up conversations with strangers. They talk freely with teachers.

Ethnographic studies of adult–child interactions in Hawaiian homes suggest that many of these school-associated patterns occur much less frequently (Boggs

& Watson-Gegeo, 1985; D'Amato, 1986; Howard, 1974). Parent–child interactions are less frequent, and parents are concerned with teaching particular social lessons that would be undermined by extensive, reciprocal exchanges. According to D'Amato, Hawaiian households are separated into adult and child domains. Strong authority relationships exist between the two and inhibit interaction.

Hawaiian parents try to prepare children for a lifetime of intensive peer interaction. To do so they teach three lessons: (a) how to express solidarity with peers; (b) how to maintain autonomy within the peer group; and (c) how to combine solidarity and autonomy in sophisticated ways to deal with others competently. They are less concerned with socializing children to deal effectively with people in positions of authority. D'Amato notes that adult Hawaiians are extremely sensitive to people claiming superiority and work to minimize status differences in groups.

Parents, through the ways in which they interact with their children, "teach" different lessons at different times of childhood. In the earliest months they teach the warmth of solidarity and intimacy. Children learn how to show and feel love and aloha. In the next years parents demonstrate the necessity of signaling autonomy within a group in order to avoid being taken advantage of. Children learn how to fight to defend themselves. During the preschool years children learn how to combine solidarity and autonomy by learning to "play at aggression through teasing, joking and repartee."

Hawaiian parents indulge and attend to infants through the first year of life, but then withdraw from toddlers near the end of the first year. This is to encourage them to be self-reliant, independent, and tough, and to deal with their own peer conflicts. Parents "grow distant" and "begin to respond with irritation" to children's dependency wishes. They interpret more of the child's actions as misbehavior and "whack" the child more. They no longer show the child off to visitors (D'Amato, 1986, p. 240).

Toddlers react to this change first by becoming depressed but then by resisting and testing adult authority. They learn to fight back by teasing, insulting and talking back. Rebelliousness is rewarded as a reaction which shows spirit.

Adult–child interactions, during these periods, are purposely infrequent, brusque, and demanding. Frequent, reciprocal exchanges in which children ask parents to listen to ideas, opinions, or experiences would undermine the emphasis on independence from the adult domain. Children react to adult brusqueness and demands both by withdrawing from adults to play in their own domain with peers and by counterattacking with teasing and joking. Consequently, many child-initiated interactions consist of teasing and baiting adults.

Given these descriptions of adult-preschooler interactions in Hawaiian homes, we asked: (a) Do avoidance/teasing patterns characterize parent–child interactions in the households we observed? and (b) If so, do these have an effect on how children use language and on the language forms they use in these interactions?

Our first task, however, was to identify children who were well-prepared for the language demands of school vs. those who were not. We used performance on standardized language tests as the criterion. Next we wanted to know why the well-prepared children performed better on the tests. We delineated the skills they needed to perform well on these language tests. Then we determined the extent to which children in each group used and practiced these skills in everyday home interactions.

Sample

We studied 20 4- to 5-year-old Hawaiian children recruited from four preschools on Oahu and a preschool on Kaua'i. The children were considered to be either "well-prepared" or "less-prepared" depending on their test scores. The 10 well-prepared children scored, on the average, in the upper quartile on four language tests, using local norms. The less prepared children scored in the lower quartile. In this chapter we report on six of these children, the first three in each group.

The sample was diverse. Parents ranged in age from 19–40. Level of schooling for mothers varied from 6th grade to 2 years of college; for fathers, from 8th grade to 2 years of graduate school. Some households had incomes within the $15,000–25,000 range; others had incomes of $1,000–$8,000. Household size varied from 3 to 15 people. Many parents were multiethnic, drawing from Hawaiian, Filipino, Caucasian, Portuguese, Japanese, or Chinese backgrounds. All children were part-Hawaiian, a requirement for enrollment in the private school system in which we worked.

For the larger sample of 20 children, the well-prepared and less-prepared groups differed in terms of:

- income (higher for the families of well-prepared children);
- mother's education (higher for the families of well-prepared children); and
- mother's employment (more frequent for the families of well-prepared children).

They did *not* differ significantly in terms of:

- whether they lived in the country or city (60% lived in the country);
- whether the father was in the home (fathers were present in 70%–80% of the families);
- the father's level of education (60%–70% had 12 or more years);
- whether the father was employed (80-100% were employed);
- whether the family was a nuclear or extended family (50%–60% were nuclear families);

- the number of household members (5.3 members for households of well-prepared children; 6.4 members for families of less-prepared);
- the number of siblings (1.1 for well-prepared children; 2.2, for less-prepared children); or
- whether Hawaii Creole English was the predominant language spoken in the home (this was the case in all but two homes, though degree of nonstandard English differed).

The smaller samples of well-prepared and less-prepared children did not show significant differences in any of these areas.

LANGUAGE SKILLS NEEDED TO SUCCEED ON THESE TESTS

What language skills did the well-prepared children exhibit? What did they need to know to perform well on the standardized tests?

American preschools stress expressive language skills. The preschools we worked with were no exception. Teachers encouraged children to talk about experiences, ideas, and plans, and in clear, explicit ways. The standardized tests used by these schools tested children for: a broad receptive vocabulary, the ability to understand and use grammatical markers to clarify the meanings of sentences, and sophisticated verbal-reasoning skills.

The children were given four language tests at the beginning and end of the year:

- How Words Work
- Say and Tell
- Peabody Picture Vocabulary Test
- Preschool Language Acquisition Inventory (the PLAI).

How Words Work and *Say and Tell* are two of the language components of a battery of tests (called the *CIRCUS battery*) designed for preschoolers by the Educational Testing Service. They examine the child's understanding of small words and grammatical forms which speakers use to clarify the topics or actions of a sentence. To perform well, children need to understand and habitually use these clarifiers and word endings to clarify the meaning of a sentence.

The tests examine the child's understanding and use of:

- differentiated pronouns
- markers of possession
- markers of place (such as place names and prepositions)
- markers of time (such as verb tenses)

- markers of quantity (such as plural markers)
- adverbs
- adjectives.

The grammatical morphemes listed above arise for the first time in the language of 3- to 5-year-olds. These grammatical *forms* serve the purpose of carrying out specific language *functions*. For example, adding *-ed* to regular verbs signals that the action happened in the past. The language function consists of clarifying when the action took place; the language form consists of the added *-ed*.

Children acquire the grammatical morphemes in an extremely regular order during the toddler and preschool years. For children who have learned Standard English as a first language, the tests determine the child's level of language development in terms of which forms he or she has acquired. For children who have learned a different dialect, the tests do not measure the same thing.

How Words Work and *Say and Tell* also test the child's understanding and use of markers of logical relationships. Different parts of a proposition relate to each other in different ways. For example, one logical relationship is that of *inclusion*, which is marked with the conjunctions *and, also, both, and all*, as in, "Point to the house that has *both* a door *and* a window."

The distribution of grammatical and logic relationship markers tested on these tests is presented in Table 8.1. Children who habitually used the above markers in everyday talk to refer explicitly to topics, actions, and relationships performed better on the tests. Such clarification is highly valued in Standard English.

The Peabody Picture Vocabulary Test (PPVT-R) examines children's understandings of Standard American English labels. Children are tested for the breadth of their vocabulary—knowing labels for many different items—as well as for the depth of their vocabulary—knowing a number of synonyms for the same item.

To do well on the test, they need to know that different labels are used for objects which differ only slightly. For example, they need to differentiate between a mug and a cup, a tea pot and a coffee pot, an elbow and a wrist. They also need to understand that the same object may have different names, for example, water faucet and tap; bucket and pail.

Since the test uses simple line drawings, children also need to understand the techniques that artists use to convey meaning in drawings. For example, *rain* is represented by vertical slashes and the motion of *running* is represented by slashes flowing backward from the running person's body. Children who were accustomed to specifying small distinctions among items, and using slightly different synonyms, performed better on this test.

The Preschool Language Acquisition Inventory (PLAI) is an individually administered test for children 3 to 6 years old. It assesses children's abilities to

Table 8.1. Grammatical Markers Tested on the Circus Tests

Grammatical Marker	Percentage of Test Items
Markers of possession (possessive pronouns, 's)	5%
Markers of place (prepositions of place)	23%
Markers of time (verb tenses)	30%
Subject–verb agreement	9%
Markers of logic relationships (inclusion, exclusion, causality, comparison)	28%

Note: Total is more than 100%, because some test items involve more than one kind of grammatical marker.

use language to solve the kinds of verbal-reasoning problems teachers typically pose in the early years of school. Teachers typically ask young children to:

- label colors, shapes, sizes and functions of objects
- match similar objects
- sort objects into categories
- describe why objects belong in these categories
- distinguish same from different
- describe how objects are the same or different
- sequence objects
- describe how these objects are sequenced
- describe the possible causes of an event
- describe the possible consequences of an event
- figure out solutions to problems
- describe "means-to-an-end" solutions.

To do well on the test, children need to have had experience both performing and talking about these operations. They need to know terms for the color, size, and shape of objects. They also need to know how to describe similarities and differences, sequences, and categories, such as:

- "This one is *the same as* that one."
- "This one comes *after* that one."
- "This one is *different from* that one *because* it has three wheels *instead of* two."

Middle-class parents reportedly play games with their children in which they ask them to label pictures, match objects, and notice similarities and differences. But more importantly, many middle-class parents have had an educational upbringing similar to their children's schooling and they tend *to think* and *talk* in the above ways. Middle-class children hear their parents organize reality in relation to the same principles of linear and hierarchical logic. The above verbal-reasoning games are familiar to them when they enter school.

An item analysis on the tests of 60 Hawaiian preschool children (Martini, 1989) found that children had little trouble *performing* operations such as matching, sorting, and sequencing. But they had trouble *talking about* these operations. They had the most trouble answering questions about cause–effect relationships and solving means-to-an-end problems. They seemed to have had little exposure to ways of talking about these processes.

In summary, judging from their performance on the four standardized tests, the well-prepared children seemed to have acquired particular habits of language use. At the most general level they were accustomed to analyzing and talking about reality by:

1. noticing and labeling the features of objects and events
2. comparing, categorizing and sequencing items in terms of these features
3. seeing and describing cause-effect relationships
4. speculating about cause and effect
5. solving means-to-an-end problems.

They were also in the habit of specifying small distinctions among items by using different labels. They also had the habit of clarifying what they are talking about by explicitly stating who, what, where, when, how, and why.

Familiarity with Standard English also helped children succeed on these tests. Children in our sample who spoke Standard English at home performed better on the tests. However, some children who spoke a strong form of Hawaii Creole English also performed well on the tests and are part of the well-prepared group. In everyday talk, these children performed the above functions (such as clarifying topics), by using Hawaii Creole English forms. For example, instead of marking the past tense with *-ed* ("He talked to her"), they added the HCE auxiliary *wen'* ("He wen' talk to her"); and instead of using the plural marker *s* ("I gave him cookie*s*") they used HCE quantity terms, such as *plenty* ("I wen' give him pleny cookie").

In the sample of six children, a strong form of Hawaii Creole English was spoken in the home of one of the less-prepared children. A less extreme form of Hawaii Creole English was spoken in the homes of four of the children (two well-prepared, two less-prepared). Standard American English was spoken by the mother of the other well-prepared child.

HOME LANGUAGE OF WELL-PREPARED VS. LESS-PREPARED CHILDREN

Our purpose was to examine home interactions to see if well-prepared children were receiving more practice in the skills tested on the tests, and if so, to determine why this was the case. We focused on three aspects of language use at home:

- the kinds of language activities or routines the child engaged in;
- the degree to which the child received practice in the communicative *functions* tested on the tests (such as clarifying topics); and
- the degree to which the child received practice in Standard English ways of performing these functions (such as adding *-ed* to mark past tense).

METHOD

Videotaping

The children were observed at home during the last half of their preschool year. Each child was videotaped seven to nine times, for one to two hours each time. Eight to 12 hours of videotape were collected for each child.

Videotaping procedure. The observer followed the child around the house, yard, and neighborhood, taping continuously, using a hand-held video camera. Occasionally children were taped at the beach, relatives' homes, birthday parties, or shopping malls. Children and families adjusted quickly to the observer's presence.

Transcribing the Tapes

We transcribed the child's stream of interactive behavior while viewing each videotape. We segmented the stream of behavior into communicative moves and interactive exchanges, drawing from the systems of Sinclair and Coulthard (1975), Wells and Montgomery (1981), and McTear (1985).

A *communicative move* was defined as an utterance or action made by the observed child which was directed toward another, or an utterance or action made by another person which was directed toward the child.

We distinguished two kinds of moves: (a) moves that initiated interactive exchanges, and (b) moves that responded to others' initiations. For example, asking a question usually served to initiate an exchange while answering a question usually served as a response to an initiation.

Coding the Transcripts

We developed a coding system to answer the following questions about each exchange:

1. In what activity is the child engaged?
2. What other people are engaged in that activity?
3. With whom does the child interact in this specific exchange?

4. Did the child initiate the exchange? If so, how?
5. How did the other person respond to this initiation?
6. If the other person initiated the exchange, how did he do so?
7. How did the child respond to this initiation?

We wanted to know how children spent their time, with whom they interacted, how they initiated contacts, how others responded to them, how others initiated contacts, and how children responded to others.

Codes for the nature of the activity. We distinguished four activity settings: (a) chatting and socializing, (b) physical play, (c) quiet activities of an academic nature, and (d) fantasy play

- During *social talk*, children sat in one place (usually in front of the TV or on the lanai) and talked to peers and/or adults.
- During *physical and exploratory play* children played actively, usually outdoors. They climbed trees, rode bikes and skateboards, ran races, played ball, and engaged in other active play.
- During *quiet activities*, children colored, copied letters, looked at books, played with puzzles, and played cards and board games.
- During *fantasy play* children acted out imaginary scenarios. They played house, monster, Batman, school, doctor, and other make-believe scenarios.

Codes for communicative moves. We were interested in drawing relationships between how children used language and the language forms they used to accomplish these purposes. We developed a coding system for communicative functions, which is presented in Table 8.2.

The two main discourse roles are initiator and respondent. The two main discourse commodities are information and actions. We coded eight communicative acts which were combinations of the two roles and two commodities. These are presented in the 2 × 2 grid in Table 8.2.

Ways of initiating exchanges. Children initiated exchanges by either requesting information, offering information, requesting the other to do something, or offering to do something for the other. These "communicative acts" (in cells A and B of Table 8.2) are described below:

1. The child offers information (coded OI). The child spontaneously offers information, for example, announces what he or she is doing and why, what he or she sees, what he or she thinks, what he or she can do.
2. The child requests information (coded RI). The child asks for information: how to do something, why something works, what something is called, what the adult is doing and why.

Table 8.2. Coding System for Children's Use of Language In Natural Settings

Discourse Role	The interaction is about Information	The interaction is about Behavior Regulation
Initiates the interaction	1. Offers Information (OI) Describing, reporting, explaining or commenting	3. Offers actions (OA) by helping or supporting
	2. Requests Information (RI)	4. Requests actions (RA) by commanding, requesting, teasing, insulting, bullying
Responds to the other's initiation	5. Responds to an offer of information (ROA) by commenting on what the other said.	7. Responds to an offer of actions (ROA) by accepting, rejecting, or ignoring the other's offer of help or services
	6. Responds to a request for information (RRI) by answering the other's questions, or ignoring or rejecting them.	8. Responds to a request for actions (RRA) by complying, resisting, or ignoring the other's commands or requests.

3. The child offers actions or goods (coded OA). This category includes a range of prosocial behaviors. The child supports the other without the other asking for such support. He or she offers food, toys and services. He or she helps, comforts, or praises the other.
4. The child requests actions or goods (coded RA). The child tries to influence the other to act in a particular way. For example, he or she asks the other to give his or her food or toys, to move out of the way, or to get his or her bicycle.

In this category also, are instances in which the child tries to keep others from following their own plans. He or she disrupts their play, scolds, insults, or tattles on them.

Ways of responding to others' initiations. Often children did not initiate exchanges, but rather responded to others' initiations. These categories reflected how others initiated exchanges with the focal.

5. Responds to an offer of information (coded ROI). The other offers information and the child responds by commenting, not commenting, or refusing to comment.
6. Responds to a request for information (coded RRI). The other requests

information and the child responds by answering the question, partially answering, or ignoring the request.

7. Responds to an offer of actions or goods (coded ROA). The other offers help, comfort, or praise and the child responds by accepting, partially accepting, or rejecting the offer.
8. Responds to a request for actions or goods (coded RRA). The other tries to persuade the child to act in a particular way and the child responds by complying, partially complying, ignoring, or resisting these persuasions.

Findings

Differences were observed between the two groups in terms of the activities the children engaged in, how children initiated contacts, how others responded to these initiations, how others initiated contact, and how the focal children responded to these initiations. In the sections below we present the percentage of communicative acts that occurred during particular activities, with particular partners, and that were of particular types. Then we demonstrate the nature and complexity of these communications by analyzing segments of interactions.

Activities

Social talk. Children in both groups spent most of their time sitting around, chatting and socializing either with adults or other children. Fifty-eight percent to 61% of their communicative acts occurred during these activities. However, children in the two groups talked about different topics and interacted in different ways during social-talk activities. The well-prepared children:

- discussed TV programs they were watching
- retold stories they had heard or films they had seen
- made up stories
- reported on past experiences
- discussed events they had experienced together
- demonstrated or explained new toys
- explained their own mental processes, such as interpretations and plans
- speculated about future events
- asked each other for information they did not have

They tended to either offer new information or ask for new information. The less-prepared children teased, joked, bickered, and bartered with both adults and other children during periods of social talk.

Fantasy play. The well-prepared children spent more time in fantasy play than the less-prepared children: 14% of their communicative acts occurred during pretend play, as opposed to 0% for the less prepared children. They played house, school, Batman, monster, and dolls. They pretended to go fishing, surfing, and motorcycling. They played with trucks and built fantasy structures with legos.

The most complex language we observed occurred during pretend play. During fantasy play each child needed to explain what he or she wanted to play, who the characters would be, and who would play which role. Children needed to use explicit, cohesive language to convey their ideas and to persuade others to follow them.

Children used sophisticated language to convey play ideas and persuade partners to follow them. As indicated later in this chapter, they spoke in longer, more complete sentences during fantasy play and used more complex constructions. Since the well-prepared children engaged in fantasy play more frequently than the less-prepared children, it is likely that they received more practice using complex constructions.

School-related activities. Well-prepared children engaged in school-related activities more frequently than did the less-prepared children. Ten percent of their communicative acts occurred during school-related activities, as opposed to 2% for less-prepared children. They colored, looked at books, played cards, and put puzzles together. They played school, "read" stories, and "recited" multiplication tables.

In the following example, a well-prepared girl pretends to read a book. She copies adult intonation and phrasing. Her sentences sound like a story, but do not make sense. She jumps from picture to picture, keeping up the pace of a well-formed story. However, she sacrifices coherence for speed and smoothness. She copies devices which are often used in children's books, such as repetition, contrast, counting and exaggeration.

> Some crabs of them is big!
> Some of them is small!
> But some crabs, they're sooo big!
> And some cucumbers is so like a Japanese.
> And like one show, like some windows they dress up with belts, with lairs, but except the oceans.
> They swim and swim and swim.
> He jumped in the water; he was swimming and swimming, but the
> ocean so deep.
> Some animals of them could play around like anykine car.
> One, two, three, like a dog.
> Like some horses, with horses and play games.

Children who listen to many stories and who play with books develop a sense of how text should sound: how long sentences should be, how short and long sentences should alternate for variety, what sentences with subordinate clauses sound like. They imitate this narrative framework—or how a story sounds—before they understand the elements of this. Knowledge of the narrative framework may help them comprehend stories better as well as produce coherent stories.

Children also copied the games and analytic strategies they observed at school. In the following example, a well-prepared boy encourages two younger children to play cards. He copies a matching game he learned at school. He imitates adult sentence structures for definitions. He keeps up the pace in forming a smooth-sounding definition. Like the girl above, he inserts whatever words come to mind to fill the slots of how a definition sounds.

> [K. holds a card and pretends to read it]. Okay, a statue, right? [Shows the card to the others]. A statue is a statue that sits on the lake. [Takes the next card]. A robot. [Shows the card]. A robot is a captain that's connected to the mouth of both of the bad kings.

The boy has a sense of how word definitions sound. His definitions sound right but do not make perfect sense.

School-related activities familiarize children with tasks they encounter in school. When they recite multiplication tables, answer teacher's questions, and read books, they practice how these activities sound. They first learn frameworks for how an activity "sounds" and is structured. Only later do they fill these frameworks with more appropriate content.

Physical play. The less prepared children engaged more frequently in physical play: 37% of their communicative acts occurred during physical play, vs. 17% for well-prepared children. Physical play which did not have a fantasy component, typically did *not* call for complex, explicit language. When children chased each other, rode bikes, or played ball, they tended to either *show* each other what they wanted to do next or to yell short commands.

Interactive Partners

The less prepared children spent *more* time with adults and adolescents than did the well-prepared children: 74% of their communicative acts occurred in adult–child interactions, as opposed to 61% for less-prepared children.

One reason less-prepared children spent more time with adults was because they had fewer older siblings to play with. They spent time around the available adults and babies. The well-prepared children had more older siblings and spent more time playing with them: 22% of their contacts were with older children, vs. 0% for the less prepared children.

Well-prepared and less-prepared children also interacted differently with adults. Well-prepared children tended to exchange information with adults, while less-prepared children tended to tease, command or resist them. The effects of this difference will be described in a later section.

Older siblings exposed the well-prepared children to new words, strategies and understandings. They shared many of the same interests with younger children, so were attractive playmates. But because they were older, they did and talked about things in new ways. In the following example, an older brother exposes a preschooler to a new word. They are playing outside and the younger boy notices that a pan he had filled with water the week before is now empty.

Y: Aye! What happened to the water? It disappear.
O: What?
Y: It disappear! I put the water in here and it disappear!
O: It evaporated. It evaporated.
Y: How, what is "raporated?" Nathan, huh?
O: [Goes back to their game, finding the younger brother some water] Here's water in here. Here, take this stuff out.
Y: Okay. I wash the rock. I washing the rocks.

Older children also provided age-relevant information on school such as its routines, spatial layout, and the personalities of specific teachers. They familiarized the younger children with counting, the alphabet, nursery rhymes, and multiplication tables.

More importantly, young children were allowed to participate in older siblings' "talk-story" sessions. In the following example, four children talk about fireworks they had seen on past Fourth of Julys. After several stories, the 5-year-old (C) tries to describe a firework she saw with her brother at her grandmother's house. She tries to explain this to the adult observer (A) her brother (Keiki = K) and her cousin (Nina = N). The older children let her talk for 5 minutes, though they do not understand what she is trying to say.

C: Aunty Mary, you know something? At my grandmother's I was lighting one sparkler, huh? (xxxx) It was flying up in the air.
K: One sparkler cannot fly.
C: And when (xxxx) go on top the ground, the thing came, the ground came blow up.
A: Huh?
C: Yeah, I go pick 'um up, I saw 'um in my hand, I chrow 'um down, then one balloon was up in the air, then I wen' pop 'um. [Gestures explosion].
A: Wow.
C: Had one string up in the air [gestures a straight line], huh? and had down [gestures something hanging down], had, had, had bullets inside a red balloon and we go pop 'um. Yeah, Keiki? Had a string, yeah? and had a string there and there and there [gestures] and had red balloons and had pops inside, yeah? and thing wen' go poof! [gestures explosion]. Yeah? [looks at brother Keiki], at grandma's house.

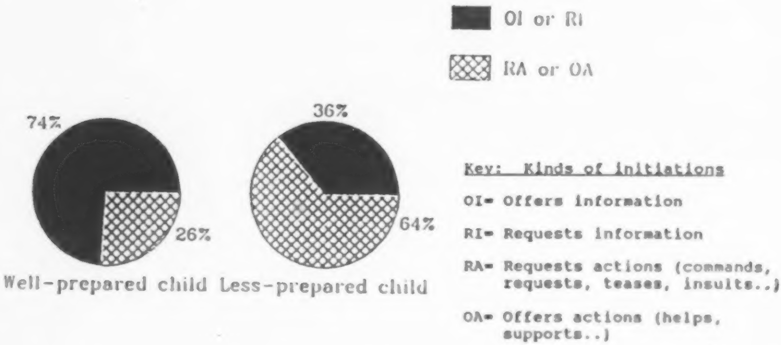


Figure 8.1. How Well-prepared and Less-prepared Children Initiate Contact with Adults

K: Balloons? With firecrackers inside?
N: No, "pops" she said.
C: Pops . . . thing go poof [gestures explosion].
K: Only if you drop the balloon down, (does) it go pop.
C: Yeah, 'cause had one stuff inside, huh? [looks at Keiki].
N: [To Keiki] yeah, load 'um up with da-kine, yeah?
C: And Keiki! and go poof. It was up in the air and had one string (xxxx) and go poof!

Young children stretch their linguistic skills to explain complex experiences. In the above social-talk session, the 5-year-old repeated herself seven times, changing the description each time in hopes of being understood. She used markers of time, place, sequence, and possession, as well as adjectives, adverbs and gestures. She looked to her older brother to remember this event, perhaps in hopes that he would clarify what she was trying to explain.

The less-prepared children missed out on these interactions with older siblings. They tended either to play with babies, who provided limited language input, or to interact with adults by teasing, joking, or bickering.

How Children Initiated Interactions (see Figure 8.1)

Well-prepared children. The well-prepared children initiated 74% of their interactions with adults by offering or asking for new information. The less-prepared children initiated only 36% of their contacts with adults by offering or asking for information.

The well-prepared children often called for their parents' attention and then demonstrated and explained what they were doing. For example, one boy called his mother to watch him dismantle a transformer; another called his father to watch him dive. They explained what they planned to do and why. They stated how they felt and what they liked and disliked.

The well-prepared children often asked adults to share their experiences. For example, one child asked his mother to come watch a TV commercial he liked; another asked his father to feel the weight of the bucket he was carrying. When adult visitors came, the children explained their toys, household routines, and family relationships. The children seemed confident that adults would listen to them.

The well-prepared children also talked a great deal about experiences they had had away from their parents. They talked about what they had done at school that day. They talked about movies and TV shows. They reported on fights and accidents they had witnessed. In one household, both parents worked and the preschooler stayed home with her grandmother, aunties, and cousins. When her parents came home each evening, she gave them a detailed account of that day's events.

In their narratives children used complete sentences, explicit vocabulary, and complex sentence forms to convey information. They wanted to talk and they wanted their parents to understand. They stretched their language skills to describe complex events.

In addition to offering information, well-prepared children asked for it. They asked parents how to do things, what things were called, how things worked, what their parents were doing, and what their parents liked. One child asked his mother if she liked a particular TV show; another asked his mother if she had seen a particular movie. Well-prepared children asked the observer if she was married, had babies, where she lived, what her husband's name was, what kind of car he drove, what color their house was, whether they lived near McDonald's, and why she was filming them.

Less-prepared children. In contrast, the less prepared children initiated only 36% of their interactions with adults by offering or asking for information. Instead, they initiated 64% of their contacts with adults by trying to persuade them to act in a particular way. They asked parents to do things for them (get them juice, tie their shoes, get their bikes out) and "baited" parents by misbehaving, teasing, and insulting them.

In some households, children spent a great deal of time baiting adults—trying to "get a rise out of them." This seemed to reflect the process described by D'Amato (1986) by which young children resist adult withdrawal by repeatedly engaging them in power struggles. In the following extreme example, a 5-year-old taunts her mother by climbing on the kitchen table and playing with the curtains. Her mother tells her to get down, but the girl mocks her mother's commands, chanting: "Messy, messy, Jessy, get down." Her younger siblings (Bubu and Jenny) climb on the table as well.

M: Jessy, get down from the table! Jessy!

C: Get down, Jessy, get down. Messy, messy, Jessy, get down. [Jumps off the table and

approaches her mother, taunting her] Messy, messy, Jessy, get—Messy, messy Bubu get down.
M: [Tries to lift Bubu down from the table].
C: [Holds onto Bubu's arm, so that he cannot get down].
M: [Lets go of Bubu, but takes Jenny down from the table].
C: [Pushes the tablecloth into the middle of the table].
M: Jessy! No get silly!
C: No! [Continues to mess up the tablecloth].
M: Well, stop acting. [Straightens the tablecloth].
C: [Laughs and messes up the tablecloth].
M: Jessy!
C: [Touches the tablecloth, looking at her mother].
M: Where the stick?
C: [Screams] *No!* [Jumps up and down, whining, then throws herself on the floor and cries. Then throws a ping-pong paddle at the mother].
M: [Laughs and taunts] Vivian [the camera person] is taking your picture when you cry.

In other households, children and parents did not engage in intense power struggles and in fact spent much time in dyadic play. Their conversations, though, centered either on physical play (such as playing ball) or on joint crafts activities (such as playing with playdoh together). These were warm, loving interactions; but in them, both child and adult used short, simple phrases to refer to the activity at hand.

In joint activities, children referred to aspects of the shared activity by pointing, demonstrating and using short phrases. Talk about the activity did not require complex, explicit language.

How Parents Responded to Children's Initiations (See Figure 8.2)

Well-prepared children. One reason why well-prepared children initiated so many exchanges by offering or asking for information was that their parents acknowledged, accepted and responded to these initiations 77% of the time. The children knew they had an audience. Parents answered children's questions, commented on their statements, and asked questions of their own to encourage children to elaborate reports.

In the following example, a 5-year-old tells his mother about teasing girls at school.

C: Mommy?
M: Yes.
C: I was picking on the girls, you know, at school.
M: You were picking on them today?
C: [nods yes].
M: How?

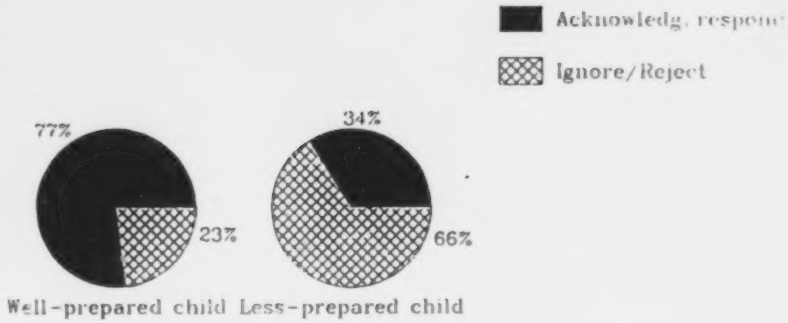


Figure 8.2. **How Adults Respond to Well-prepared And Less-prepared Children**

C: Teasing them.

M: What were you teasing them? Did they get mad?

C: I forgot.

M: Did they get mad at you?

C: No, they tease back. They wen' go look funny to me.

M: But don't call names, okay?

C: I wasn't.

M: It's not nice. It's not nice to call names. Who were you teasing? What girls?

C: All of them.

Less-prepared children. In contrast, the parents of less-prepared children ignored, refused, or actively rejected 66% of their children's initiations.

In the following example, a 5-year-old tries nine times to initiate contact with her mother and aunties. She is ignored or rebuffed most of the time. At times she insults, teases, and talks back to the adults. She resembles the young children described by D'Amato (1986) who begin to test parents' limits in reaction to being teased, ignored, or rebuffed.

C: [To Aunt Denise] Guess what is this? [Points to her drawing].

D: I don't know.

C: It's your fat little brat.

D: [Does not respond].

C: [Goes to the bathroom door and watches her mother bathe her baby brother] Aunty Denise, you know what? He made doodoo in he stuff and dakine come out. And he was crying. His stomach was sore.

D: Good fun!

C: [To mother] I no like to take a bath. I take my bath already, yeah?

M: Mm hmm.

C: Mom, how come he [baby brother] always shower in there? He love it?

M: Yeah. He like shower that's why.

C: With me too?
M: Yeah.
C: He no like shower in the other one, yeah? He hate it. He like shower in there.
M: [Does not respond].
C: [Returns to the living room]. Denise, you pau do the names?
D: Mm hmm. Don't write on my paper.
C: I did already. Janet?
J: [Ignores and begins to talk to Denise about her baby].
C: Janet, um, you know what? I have one headache.
J: You give me one headache.
C: I don't. I don't.

Some children reacted to adult rebuffs by escalating their attempts to secure the adult attention. The child above spent hours trying to talk with her mother, aunties, and grandmother. Only her grandmother listened and responded. Jessy, the 5-year-old who taunted her mother in the earlier example, regularly jumped on the couch, walked on the piano, knocked pictures off the shelf, poked at the ceiling, and hurt the baby to get her mother's attention.

How Parents Initiated Interactions

Well-prepared children. The groups differed also in terms of how parents initiated contact with children (see Figure 8.3). Adults in the homes of well-prepared children initiated 57% of their contacts with children by offering or asking for information. Adults in the homes of less prepared children initiated only 33% of their contacts with children by offering or asking for information.

In the following exchange, the father of a well-prepared child asks her about school.

F: You did good today, Lisa?
C: Yeah.
F: Anybody wen' beat you up?
C: Nope. Now. Not now.
F: You be a bad girl?
C: That, uh, oh Dad, I got two more months now.
F: Huh?
C: Two more months.
F: Before what?
C: 'fore
F: Before you go Kinnygarten?
C: No.
F: What you gonna do after preschool, work?
C: No, going have my birthday at two months.
F: After your birthday, what, you gotta go Kinnygarten, you know. It starts all over again.

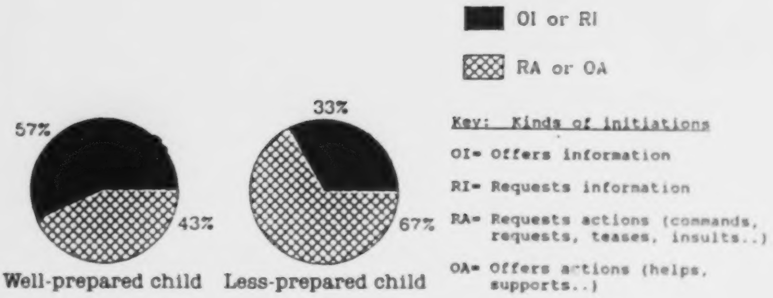


Figure 8.3. How Adults Initiate Exchanges with Well-prepared and Less-prepared Children

C: I gotta go Gabe's class. [Her cousin, Gabe, is currently in kindergarten].
G: I won't be there.
C: [To Gabe] Are you gonna go at my class?
G: I cannot. I gotta go first grade.
F: It starts all over again, Lisa. Kinnygarten. No more preschool anymore.
C: I like my same friends.
F: Huh?
C: I like my same friends.
F: Ohhh. You'll have your same friends. They're gonna be in your same class.
M: You might even have more.

Some adults, particularly grandparents, quizzed well-prepared children about school, fieldtrips, their friends, the beach, and "homework."

Less-prepared children. In contrast, parents of less-prepared children initiated 67% of their contacts with children by trying to persuade them to act in particular ways. Typically, they told children what to do or told them to stop acting in a particular way.

How Children Initiated Interactions with Peers

The well-prepared and less-prepared children differed in terms of how they initiated contact with peers. Well-prepared children initiated 55% of their peer contacts by offering or asking for information. In contrast, less-prepared children initiated only 4% of their peer contacts by offering or asking for information. This may reflect the fact that well-prepared children played with older siblings, who were competent interactive partners who could convey and receive information, while less-prepared children played with babies or toddlers who had few conversational skills.

Summary: Features of Language Use Associated with Test Success

The well-prepared and less prepared children used language differently in their interactions at home. Features associated with high test performance were:

- children engaged frequently in fantasy play and school-related activities
- children interacted frequently with older children
- children talked often about out-of-context topics, such as past, future or distant events, or unobservable mental processes
- children used language mainly to convey and receive information
- children initiated interactions by offering or requesting information
- parents acknowledged, accepted or responded positively to children's initiations
- parents initiated interactions by offering or requesting information
- parents modeled "explicit reference devices" by speaking clearly and at length about topics
- children initiated interactions with peers by offering or requesting information

Our findings did not differ greatly from those of Wells (1985) and of Wells and Montgomery (1981), who studied the home language environments of children who performed well vs. those who performed poorly in English early schools. Wells (1981) stressed the importance of "the way in which everyday events were picked up in talk, and meanings developed and made more coherent through extended conversation" (p. 263).

The Relationship between Language Use and Language Form

Our impression was that different ways of interacting called for different forms of language. Martini (1989) examined the presence or absence of tested grammatical features in different kinds of interactions to see if this was the case. The method and findings of this study are briefly reviewed.

Method

Twenty-eight parent–child interactions were microanalyzed. The interactions were transcribed verbatim and segmented into utterances, which corresponded roughly to phrases or short sentences. (Nonverbal acts with communicative purpose, such as grabbing a toy or gesturing, were also delineated.)

Each utterance was coded in terms of: (a) how the child used language, (b) the complexity of language used, and (c) the presence of grammatical markers.

Each utterance and nonverbal move was coded for communicative function, using the codes presented in Table 8.2. Four standard measures were used to code the complexity of utterances: (a) the Mean Length of Utterance, (b) whether the child used words vs. gestures to communicate (c) whether the child used a complete vs. fragmented sentence, (d) whether the child used a complex vs. simple sentence (Willis, 1976). The details of this coding system are presented by Martini and Mistry (1988, pp. 53-57).

Each utterance was also coded for the presence of the grammatical markers tested on the tests. Children were given credit for using either Standard English or Hawaii Creole English forms of these markers.

Findings

Briefly, Martini found that some ways of using language called for complex syntax and grammatical markers, while other ways did not. In this sample, children used their longest sentences, most complex sentences and the largest number of targeted grammatical markers when they:

- spontaneously offered information (OI)
- requested information (RI)
- gave elaborated responses to information questions (RRI/OI)

Children used their shortest sentences, least complex sentences and smallest number of targeted grammatical features when they responded to people asking them to act in particular ways (RRA).

Children used intermediate length sentences and an intermediate number of targeted grammatical features when they:

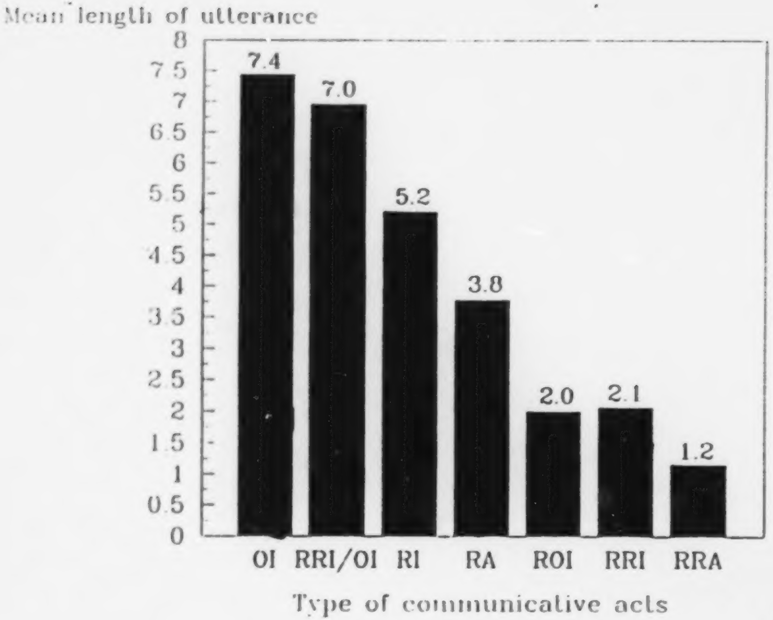
- asked others to act in particular ways (RA)
- responded in an unelaborated way to information questions (RRI)
- responded to closed, didactic questions (RRD)

Specific findings are presented in Figures 8.4 and 8.5.

Well-prepared children, who spent more time offering and asking for information, used grammatical markers more frequently and received more practice in their use. Less prepared children, who spent more time regulating each other's behavior, used grammatical markers less frequently and received less practice in their use.

DISCUSSION: WHY DIFFERENT ACTS CALLED FOR DIFFERENT FORMS

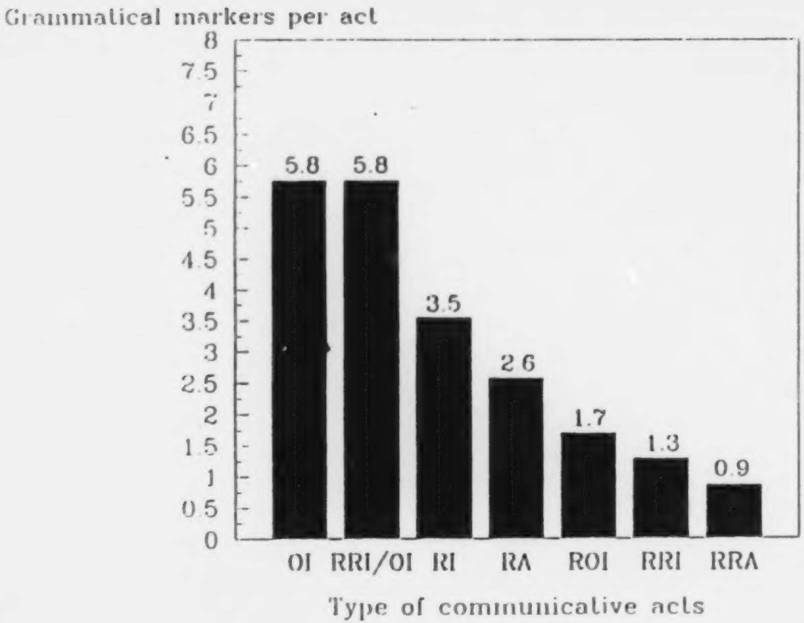
In general, initiating interactions called for more complex language than did responding to another's initiation, and talking about information called for more complex language than did talking to persuade others. Why was this the case?



Key: Kinds of Communicative Acts

OI=	Offers information spontaneously, without the other asking for it.
RRI/OI=	Responds to a request for information and also offers additional, unasked for information, or elaborates.
RI=	Requests information from the other.
RA=	Requests action, tries to persuade the other to act or not act in a particular way. Includes commanding, requesting, teasing, insulting.
ROI=	Responds to an offer of information, e.g. comments on the other's information.
RRI=	Responds to a request for information without elaborating.
RRA=	Responds to other's request for action. The child either complies with or ignores the other's commands, teasing, etc.

Figure 8.4. Differences in Mean Length of Utterance for different communicative acts



Key: Kinds of Communicative Acts

OI= Offers information spontaneously, without the other asking for it.

RRI/OI= Responds to a request for information and also offers additional, unasked-for information, or elaborates.

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RA= Requests action, tries to persuade the other to act or not act in a particular way. Includes commanding, requesting, teasing, insulting

ROI= Responds to an offer of information, e.g., comments on the other's information.

RRI= Responds to a request for information without elaborating.

RRA= Responds to other's request for action. The child either complies with or ignores the other's commands, teasing, etc.

Figure 8.5. Mean Number of Grammatical Markers in different Communicative Acts

When children initiated an exchange they used explicit, complex language, because they needed to explain the new topic. When they responded to another's initiation, they used less explicit, complex language, because explicit language was not needed to communicate clearly. The topic had already been introduced and explained, and they could now refer back to it in implicit, abbreviated ways.

Similarly, when children conveyed information, they clarified when, where and how the events took place. When they talked about nonpresent, unfamiliar topics, they provided all information verbally, because they could not rely on contextual cues or implicit understandings to fill out the meaning.

When children initiated exchanges about nonpresent and unfamiliar topics (e.g., when they offered information [OI]), they needed to be doubly explicit—first of all, to explain the *new* topic, and secondly, to explain the *nonpresent* topic.

Why Children Used Language Differently

We found that well-prepared and less-prepared children interacted differently at home. Well-prepared children participated frequently in conversations and discussions with parents and peers. Less-prepared children rarely engaged in such discussions. These differences seemed to stem from three sources:

1. Some parents of the 10 less-prepared children did not have the time, energy, or inclination to interact extensively with their children. They were under great financial stress and worked most of the time to make ends meet. Children in these families rarely saw their parents. Other parents were young, concerned with their own social needs, and overwhelmed with caring for children. They were often in conflict with their children who clamored for their attention.
2. Other parents spent a great deal of time with their children but seemed to be training them for self-reliant peer relations, as described by D'Amato (1986). They ignored or teased children, seemingly to "toughen them up" or steer them towards autonomous functioning in the peer group. They discouraged extensive adult–child interaction and situations in which the child drew attention to himself.
3. In still other households Hawaii Creole English and implicit styles of communication were favored over Standard English, and extensive, explicit discussions were not common.

In summary, *how* children interacted influenced the language forms they used and provided them with more or less practice on the skills needed for successful test performance. *Why* children interacted in different ways, however, stemmed from a range of cultural, social, and psychological reasons.

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Chapter 9

The Social Context of Early Literacy in Hawaiian Homes

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J. Mahealani McClellan

INTRODUCTION

Overview

It has become increasingly accepted in educational circles that the preschool child's home environment provides the basis for future school performance. In addition to potentially fostering pro-school attitudes, the home is thought to give children experiences that provide the foundation for school skills. Recent research on emergent literacy takes this perspective. Researchers such as Mason (1980) and Teale and Sulzby (1986) have asserted that children learn the functions and routines of reading prior to the decoding skills that have historically comprised elementary reading instruction. These functions and routines are commonly thought to be first learned at home.

Much institutional change has accompanied this perspective in research. Some of these new educational practices are reminiscent of the research and program development of the 1960s, which forwarded a "culturally disadvantaged" theory of educational performance (Bereiter & Englemann, 1966). While once preschools were content with providing generally "enriched" environments for children from "impoverished" homes, now there are increased efforts toward academically enriched preschool programs. These are intended to make up for a home environment thought to be lacking in school-like experiences for children. Regardless of social class or ethnic background, parents are being asked to become much more involved in the academic experience of their children. There is also a growing trend for educating parents to provide earlier academic experiences in the home. Courses on parenting such as "Family Math"

(Stenmark, Thompson, & Cossey, 1986) abound, as do publications for parents with tips for being a better parent-teacher (U.S. Department of Education, 1986). Schools have also stepped up home interventions by sending books home (Arakaki, 1987; McCormick & Mason, 1986), instructing parents on story-reading practices (Tizard, Schofield, & Hewison, 1982), and requiring more parental involvement in children's homework. Although there is now some research to question the necessity of the involvement of parents in their children's day-to-day school work, the belief that high parental involvement in the school life of the child is so strongly held that teachers have been shown to judge the degree of parental involvement by the level of student success. This success has been overestimated in high-achieving students and underestimated in the case of low-achieving students (Gibson, 1986).

A missing component in these discussions is how such trends are in fact affecting the home lives of young children. Have these ideas been adopted by parents, and in what ways are they being enacted? In particular, our research has been concerned with the literacy practices in the homes of low-income, Hawaiian preschool children. Our preliminary question was, are these young children being exposed to literacy at home? And if so, how are these practices organized from the point of view of their parents? From this information, we can describe how new educational trends become manifested in children's lives outside of school.

While much has been written about Hawaiian family life and on the social life of young children outside of school (D'Amato, 1986; Gallimore, Boggs, & Jordan, 1974; Jordan, D'Amato, & Joesting, 1981), no systematic work has been done on early literacy experiences of preschool-age children. Weisner, Gallimore, Jordan (this volume) report few literacy events during their afternoon observations of elementary-age children. However, they did not systematically observe preschool children, and their observation periods did not include evenings, a time when many literacy events could be occurring. Since many Hawaiian children enter school with a low level of academic skills, teachers and researchers alike have assumed that these children have little exposure to books and literacy activities (Jordan, D'Amato, & Joesting, 1981; Kawakami & Au, 1985). Such judgments are possibly based more upon measures of traditional reading readiness rather than emergent literacy and reflect language experience and prior school experience as much as literacy experience.

Despite the implications of earlier work, our preliminary question was answered in the affirmative: Hawaiians *do* have preschool experience with literacy. Summarizing the more complete description we provide later in this chapter, we found that as participants in modern American society, most Hawaiians maintain literacy-filled homes. Following Teale's (1986) classification for literacy activities, Hawaiian families use literacy for daily living routines, entertainment, religious activities, and, of course, school-related activities. Much as Teale found in his comparison of Anglo, Black, and Hispanic families, we found so much variation within our sample of Hawaiian families that we do not find it parsimonious to define a "Hawaiian" pattern of literacy usage at home.

However, commonalities were found in the ways that parents tried to organize specific literacy activities for their children. That is what we would like to describe in this chapter, and is what we consider to be "cultural" about literacy use among Hawaiians. There are two constructs that we have found especially useful in making sense of the data on literacy activities in the homes of young children. The first is activity settings. Wertsch (1985) describes Vygotsky's and Leontiev's notion of an activity setting as follows:

> An activity setting is grounded in a set of assumptions about appropriate roles, goals, and means used by the participants in that setting. In terms of the levels of analysis in the theory of activity, one could say that an activity setting guides the selection of actions and the operational composition of actions, and it determines the functional significance of these actions. In the latter connection, for example, the functional significance or "sense" of getting to point N...will vary depending on whether this action is executed in the activity setting of, say, labor or schooling. (Wertsch, 1985, p. 212)

The second construct involves cultural models or schemata (Holland & Quinn, 1987). "Cultural models are the presupposed taken-for-granted models of the world that are widely shared...by members of a society and play a great role in their understanding of that world and their behavior in it" (Quinn & Holland, 1987, p. 4). Whether defined as understandings, beliefs, schemata, or folk theories, these models not only frame experience, but simultaneously embody goals for action. As important as describing the models is figuring out how the meaning systems are organized. Part of the difficulty in attempting to describe cultural models is that people use but do not reflect upon their understandings in many everyday domains. As Hutchins (1980, p. 12) elegantly stated, once learned "[cultural knowledge] becomes what one *sees with*, but seldom what one *sees*."

By combining the constructs of activity setting and cultural model, we suggest the following proposition: What happens in an activity setting is determined by the definition of that activity setting and by the conjunction of the various cultural models that the participants view as relevant to that activity setting. As an example, in an earlier paper (Brenner & Levin, 1986), we argue that storybook reading is a newly accepted practice in many Hawaiian homes. As an activity setting, story reading requires people (an expert reader and a novice listener [preschool child]) and materials (storybooks). The general goals are clear—reading to children enhances later school success, a value widely shared in Hawaiian families. In addition, the activity itself is specified—reading. However, at the same time, various cultural models come into play. These include appropriate adult (child-interaction styles, teaching) learning methods, other socialization goals for young children, and parents' own feelings about book reading. The end result is that story reading is an activity setting advocated by many parents but infrequently utilized by most.

The goals of this chapter are twofold. We describe literacy practices that parents report to occur in homes of Hawaiian preschool children. In addition, we describe several cultural models that come into play to guide these literacy practices and how these are connected by a highly valued emphasis upon "helping." We conclude by pointing out that the nature of children's literacy experiences cannot be captured by simple enumerations of events or by assessing attitudes alone; rather, these experiences are strongly influenced by their social and cultural context. As new values and practices are adopted by these families, they too will be changed and incorporated into the existing social world of the family.

Emergent Literacy: Definition and Examples

Recent conceptualizations of emergent literacy contrast it to earlier ideas about reading readiness (Teale & Sulzby, 1986). From the reading-readiness perspective, children need to develop a set of prerequisite skills before they can profit from instruction in reading. These skills include such things as auditory discrimination, visual discrimination, letter sounds and names, and oral language development. Once these skills have been mastered, formal instruction in reading itself can begin. Writing is approached after a firm basis in reading is established. Implicit within this perspective is the assumption that children must have reached a developmentally critical level of maturity (whether it be achieved through biological maturation or careful instructional preparation) before they can have meaningful engagement with printed materials.

The readiness notion was challenged when researchers began to establish the fact that children have extensive exposure to literacy practices long before they receive formal instruction in school, and this exposure enables children to construct a knowledge base that facilitates later reading progress. Children aged 5 and younger were found to have letter-naming knowledge (Hiebert, 1981; Kontos & Huba, 1983; Mason, 1980), recognition of common words in context (Mason, 1980; Masonheimer, Drum, & Ehri, 1984; Ylisto, 1967), and knowledge about the conventions of print in books (Goodman, 1984). At the same time they are learning information about reading, young children are also actively engaged in writing text (Bissex, 1980; Ferreiro & Teberosky, 1982; Harste, Woodward, & Burke, 1984; Sulzby, 1983), and this is intimately related to their efforts to make sense out of print.

In an attempt to systematize the growing body of literature on emergent literacy, Mason (1980; Mason & Allen, 1986) has proposed three levels of knowledge about literacy. At Level 1, children know the function of print, for example, that it represents words and conveys meaning. They recognize contextualized usage of print. At Level 2, children begin to conceptualize how the form of print is organized, for example, that different letters represent different sounds. Level 3 encompasses the process of making meaning out of text, thereby integrating knowledge about letter-sound correspondence into more connected prose. While there is debate about such levels as a fixed progression (Hiebert, 1981), the emergent literacy research demonstrates that children probably need a foundation of knowledge about the forms and functions of reading before other reading skills will be meaningfully learned.

In addition to documenting and clarifying the nature of young children's literacy skills, much attention has been given to the nature of the experiences that foster these skills. At the most basic level, people must be exposed to literacy to understand its conventions. Work by Scribner and Cole (1981) in Africa demonstrated that exposure to different literate practices (English, Arabic, Vai) produced different kinds of basic skills, while nonliterates lacked knowledge about some (not all, however) basic literacy concepts such as a word being a unit of meaning. Within the United States, children from different communities have differential access to literacy practices. In Heath's research (1983), she found that the children in "Trackton" seldom saw people reading and writing at home. Their parents, who were employed as mill workers, did not use literacy as part of their jobs and did not use it at home for entertainment or informational purposes. These children were more likely to have difficulty with reading in school than did children who had a wider variety of literacy experiences.

However, most of the research on literacy in the United States has found that children from many ethnic groups and social classes have early exposure to literacy that is not limited by circumstances particular to ethnicity or social class per se. Teale (1986) reports that in Anglo, Black, and Hispanic homes in urban California, many kinds of literacy events occur, and there is as much variation within ethnic groups as there is across ethnic groups. McCormick and Mason (1986) report that children from professional homes experience more frequent involvement in a variety of literacy experiences, but that even in families on public assistance, a majority of children have ABC books, frequently request story readings, and are read to weekly.

Given the myriad kinds of literacy practices present in American homes (Teale, 1986; Taylor, 1983), interest has turned to the question of which early literacy skills and experiences most facilitate later reading. It is relatively easy to show what is not mastered among young children. For instance, recognition of words on common signs and logos does not confer the ability to read these words in a different context (Hiebert, 1978; Ylisto, 1967). However, such "print awareness" provides functional meaning and gives children a motivational base for formulating more complex ideas about print.

Hiebert (1981) found that the traditional reading-readiness skills and print-awareness skills were developmentally intertwined in her sample of 3 to 5-year-olds. There was no clear ordering in acquisition of specific skills, nor was it possible to separate reading-readiness skills from awareness skills statistically—they formed an integrated entity for the children. Her conclusions state that while any one measure may provide a reliable correlate to later reading development, in fact, they are all intrinsic to beginning literacy. Thus, early literacy programs that focus on developing one kind of skill such as letter-sound correspondence are developmentally incomplete and unlikely to be completely successful.

Wells (1985) followed children from their preschool years through age 7 after they had experienced formal reading instruction in school. In an initial inquiry, he found that the number of books owned by a child, the child's interest in reading, and the child's concentration on literacy activities were the best contributors to school achievement rather than language skills or reading-readiness skills. He followed this interview study with an observational study in homes and found that the way in which books were used was important. Among 5-year-olds, looking at books alone was not related to later achievement, but listening to stories read by an adult was.

Social Basis of Literacy

Observational studies (Heath, 1983; Taylor, 1983; Wells, 1985) established that early literacy development is a socially mediated process. Children's exposure to literacy and direct experiences of literacy tend to be done in the company of other people. A variety of different factors give structure to these social encounters.

Heath (1983) ties literacy development to the language domain of linguistic development, since literacy is but one aspect of language usage. She emphasized that language use is closely bound to other cultural patterns in a community, and that the language socialization process is immensely complex. Thus, she rejects simple, single variable explanations of the antecedents of school success. For instance, she notes that the children in all three of the communities in her study are exposed to much language. "Thus, it is the *kind* of talk, not the *quantity*, that sets townspeople children on their way in school" (Heath, 1983, p. 352; emphasis in the original).

Teale (1986) and Anderson, Teale, and Estrada (1980) focused more narrowly on describing the range of literacy activities that are present in the homes of low-income families of Anglo, Black, and Mexican-American ethnicity. He categorized literacy events by their domain (e.g., religious, work-related, entertainment) and by their participant structure. A participant structure was determined by observing who was involved in a literacy event and how the focal child participated—by observing or by being directly engaged in the activity. Two major points stand out in Teale's conclusions: (a) every child was engaged in reading and writing as part of everyday activities; and (b) there was great variation in the amount of literacy activity, but the categories utilized by Teale (domain of literacy activity, participant structure) and more traditional social science variables (ethnicity, gender income) did *not* explain or "map" this variation. In part, this may be due to the research methodology employed and the resultant definition of participant structure.

The research literature clearly indicates that early literacy is a social endeavor, but little systematic guidance was available to guide our work with Hawaiian families. We felt that we needed to find out how the families in our study conceptualized specific early literacy practices in the context of the other goals they have set for their children. Thus, we asked them questions on how they organized the various literacy events that they had already told us were occurring. We also asked about other types of activities that were considered educationally important. As much as possible, we tried to determine who was involved in any literacy event and how important their role was.

Methods and Sample

We elicited caregivers' accounts of their preschool children's experiences and skills as one part of a study of early literacy and numeracy in low-income Hawaiian homes. The study proceeded in two phases. In the first year of the study, caregivers of 20 children attending a research preschool were interviewed both at the beginning and at the end of the school year. All of the children were ethnic Hawaiian and 4 years old by the end of the calendar year. They lived in a working-class neighborhood of Honolulu, and three-quarters of their families received some form of general assistance. Eleven caregivers were female single parents. All parents were native speakers of English. One-half of them had completed high school, and nine parents had some college education. Three had obtained college degrees. Parents' occupations varied and included fire fighter, warehouse worker, part-time musician, cashier, sales representative, health aide, and classroom cleaner, among others.

Generally, these interviews took place in the families' homes, although we also met a few at school, at the caregiver's work place, and in restaurants. Fifteen of the 20 interviews were with the child's mother; of the rest, twice we talked with both parents, once with the grandmother who was the child's legal guardian, and twice with the mother and her own parents or relatives. In many cases, older and younger siblings of the preschool children, as well as the children themselves, were present. Older siblings often provided detailed reports of the preschool children's skills and experiences.

We went into the homes with a number of questions about early literacy. Caregivers were asked to comment on the preschool child's past experiences, current level of skill, and attitudes toward beginning to read and write. We also asked about literacy-related activities that adults and older children engage in at home that children observed. Finally, we elicited descriptions of the ways in which their preschool children acquired these skills and the social contexts in which these learning activities occurred. These open-ended interviews were tape recorded and supplemented by child observations and interviews. All interviews were transcribed.

During the interviews, we informally assessed children's interest and familiarity with books, writing, and number concepts by reading a book with the child, talking to them about what they know how to do, and providing them with writing materials. In addition, by having children show us their toys, books, and other possessions, we were able to collect a more complete inventory of literacy-related objects in Hawaiian children's environments.

During the first year of the study, six of the families participated in frequent parent interviews and child interviews and observations at home. A cross-section of families representative of the different marital status, socioeconomic backgrounds, and family and household compositions found in the preschool classroom were chosen to participate in the "focus" study. A total of 102 hours of focus family interviewing was completed. On the average, parents in the family were interviewed 12 hours during the 9-month period and the preschool children half of the time. The open-ended interviews elicited information on the meaning of formal education to these families, the families' social networks, children's responsibilities at home, and how the preschool children were seen to learn appropriate social behavior, safety practices, household chores, and school-relevant social skills and attitudes.

In the second year of the project, larger samples were included in both the preliminary and intensive phases. In an attempt to include a more diverse cross-section of the Hawaiian community, rural families living outside of urban Honolulu were added to the study. Sixty-two parents and caregivers of 4-year-old ethnic Hawaiian children were interviewed at the beginning of the school year. This sample was divided about two-thirds urban and one-third rural families. Approximately 60% of the urban families (23 out of 40) and only 14% (3 out of 22) of the rural families received some form of general assistance. Caregivers in one-half of the urban families were single parents, and among the 22 rural families, 2 were single parents. In addition, 12 focus families took part in interviews every other week over the school year. Five of the 12 had participated in a related home-visiting-based program for 0–3-year-olds that targeted rural families. The remaining were chosen as a representative sample of the current student population in our two urban preschool classrooms. Families were interviewed on an average of 9.5 hours each on a variety of topics, including child's home and school skills learning, child history, daily routine, parents' life histories, and observation of their child in the classroom. Transcriptions were made of these interviews.

Thus, in all, we talked with adults in 82 families about the early literacy experiences of their preschool-age children. Of these, 18 focus families participated in frequent and intensive interviews that lasted over 1 school year.

During these interviews, parents discussed with us their children's activities and their ideas about what children do and why.

DESCRIPTION OF EARLY LITERACY IN HAWAIIAN HOMES

The Material Environment of Early Literacy

All of the homes of the preschool children that we visited had numerous examples of print materials. In no home did we find a complete absence of literacy materials, either those aimed at children or those primarily used by adults. In addition to children's literacy materials such as story books, we saw numerous objects that might result in incidental literacy learning, such as tee-shirts with messages printed on them. Some of the print materials aimed at children included books of Biblical tales, animal books, fairy tales, Mother Goose, Dr. Seuss, children's encyclopedias, book and cassette or record sets, posters with print, art work and possessions labeled with children's names, and commercial educational materials such as ABC books, workbooks, electronic educational toys, and magnetic alphabet boards.

As well, all homes contained literacy materials used primarily by adults or older children. We found books, magazines, newspapers, appointment books, notes on wall calendars, bills and lists posted on refrigerator doors, television schedules, telephone books, certificates, and framed diplomas. The uses of these materials ranged from functional (such as appointment books) to entertaining (such as novels or magazines) to noting accomplishments (such as a displayed diploma).

To give some sense of what kind of print materials are available in the homes of low-income urban Hawaiian homes, here are descriptions of the inventory of such materials found in the homes of two families. Both examples clearly refute the belief that low-income Hawaiian homes are generally so empty of print materials that children who grow up there enter school unfamiliar with even the concept of print.

Patty[1] lives with her mother and infant baby brother in a small one-bedroom apartment in a public housing complex. Patty's mother, Lorraine, has completed high school and currently is not employed. The family receives general assistance. Patty's father does not live with the family. When Patty was asked to show us her belongings, she led us to the bedroom and pulled her things from the closet. Among her toys and dolls were the following literacy-related materials: about 20 paperback books (among them *Curious George Takes a Job*, *Stork Spills the Beans*, *Green Eggs and Ham*, *The Bike Lesson*, *Lovable Lyle*, *Animals Do the Strangest Things*, *Rabbits and Skunks and Spooks*, *Kimo the Rock Star*, *Harry*

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[1] All names in the text have been changed.

the Wild West Horse, *Baby Animals*, *Road Runner*, *Zip Goes the Zebra*, *A Happy Day*, *Some Things You Should Know About My Dog*, books from *Disney*, *Sesame Street*, and *Berenstein* and *The Sweet Pickle* series). She also had a counting book with accompanying record, several other counting books (*1, 2, 3—Things to Count from 1 to 10*, *First Fun 1-2-3*, *My First Counting Book*), a *See and Count* electronic toy, and a toy telephone. Other materials included a *See and Say* electronic toy, four sticker books, a comic book about dental hygiene, a school calendar, and several puzzles. On a bookshelf between the kitchen and living room was a set of encyclopedias for children. Patty also showed us eight coloring and activity books, her desk and blackboard, a pencil bag, crayons, paints and chalk, and a notebook filled with painting and scribbling.

Patty's mother, Lorraine, mentioned that she herself does not read very much. She did not like to read in school and doesn't remember much about learning to read. Nonetheless, Lorraine did have books and magazines in her home, and she enjoyed doing crossword puzzles and carried on a lively mail correspondence with family members who lived off-island. Her reading materials included several women's magazines, three school textbooks, a dictionary, several cookbooks, and two copies of the Bible. Among Lorraine's writing materials were several notebooks, books of word puzzles, stationary, and stacks of letters. At the beginning of preschool, Patty could print the first letter of her name. The rest, according to her mother, is "just scribbling." Patty imitates her mother's writing activities. She takes her mother's word search book, says she is looking for words, and, according to her mother, "crosses out everything," and proclaims, "Look, Mommy, I did this." Telling her mother "I'm going to write a letter to Grandma," Patty scribbles a letter to her grandmother and encloses it in an envelope that she then fills out.

Kimo lived with his parents, his older brother (age 11), and his younger sister (age 3) in a one-bedroom apartment in the city. Both of his parents grew up in rural communities on a neighbor island. His mother is a graduate of a private high school and completed technical training at a community college. His father, a high school graduate, had worked as a mechanic. Neither parent was employed at the time Kimo was in preschool, and the family's income was limited to general assistance. Prior to renting their own apartment, the family had lived in a nearby house with seven relatives and friends. In discussing her move, Mary Jane explained that since her current apartment was so small, she had placed many boxes of family possessions in storage. She worried that by the time they had moved into a larger apartment, her daughter will have outgrown many of the books and toys that had been saved for her in storage.

We found a variety of print-related materials. These included a manuscript writing tablet, a Transformer coloring book, dinosaur stencils labeled by name, crayons, markers, colored pens, and pencils. Kimo showed us a variety of books. Some books were found in a cardboard box, which mostly contained clothes. Other books were placed on the floor of the closet. Ones that he claimed as his own included *Richard Scarry's Read-Along Stories*, *The Ocean World of Jacques Cousteau*, and *Little and Big are not the Same*. Books that he said belonged to his younger sister included *What a Nightmare, Charlie Brown*, *Learning to Count w/12 Elves*, *Little and Big are not the Same*, *How Peter Cottontail got His Name*, *My Little ABC's*, and *Flutterby*, as well as an alphabet book that Kimo said used to belong to him, but that he had given it to his younger sister. Among the literacy materials in the bedroom was Kimo's older brother's school folder and one of his textbooks. In addition, Kimo's family used the library quite a lot, stopping by to check out books nearly every week. In his stack of books were two from the library: *Caps for Sale* and *Halloween Traditions*. His mother, Mary Jane, described herself and her husband as readers. She preferred "pleasure reading," mostly classics, while her husband read a lot of magazines. In their home were the following literacy materials, not specifically for child consumption: two magazines (*Sekiyo Times* and *Time*), two newspapers (*The World Tribune* and *Midweek*), two telephone directories, food containers with writing on them (cereal boxes, Cool Whip, and Zippy's containers), a stack of *National Geographics* on the closet shelf, and two books (*The Nutcracker* and *Getting to Know the USSR*). As might be expected, every preschooler's home had at least one television, and many parents reported that their children watch educational shows like "Sesame Street" as well as cartoons. When asked how their children learned school-related skills, many parents attributed skill learning such as counting from 1 to 10 to their child having watched children's programs on educational television.

In a few homes, the children's books and other print materials were kept along with those of other family members on bookshelves in the parlor, a public area of the house. However, in most homes, children's books and related materials were housed in the bedroom, along with their toys and clothing. When we asked children to show us their belongings, most often they went into the closet to pull out a box of their things. Books were not displayed on bookshelves in the bedroom, nor were writing materials left out in the room. Rather, children were trained to bring their books and writing materials out when they wanted to use them, and then put them away in the boxes along with their toys in the bedroom closet when they were finished.

Children's books came from many different sources. The children received them as presents for birthdays or Christmas, as "hand-me-downs" from older brothers and sisters, from relatives with access to library discards, garage sales, swap meets, and from the library.

For many of the families, the library served as an important source of books. In weekly or bimonthly visits to the library, both adults and children checked out books for home use. Parents reported that they and their children especially used the library during their summer vacation. Owning one's own library card provided a powerful incentive for several of the preschool children to learn to print their name.

Parents noted that their children liked to engage in what are often considered literacy-promoting activities, such as puzzle building and card matching or drawing pictures. In fact, in most homes, both adults and children frequently played cards. Rarely were teaching-specific aids acquired for children. A few parents had bought their children sequence cards, activity books, and picture bingo. Only one person mentioned that the materials were acquired specifically to encourage their child's literacy development. The reasons for acquiring the materials were more often stated in terms of a child's interest in playing with the cards or in constructing puzzles.

Inventories of children's literacy-related materials provide us with some indication of the possible literacy activities in the home. It became clear to us that an understanding of the meaning of literacy in the home is not simply derivable from a count of literacy objects found there. The presence of the objects tells us little about how often or in what ways they are used.

First of all, a numerical count may overestimate literacy activities in the home. Literacy objects may be serving as status markers rather than frequently used items. A good example is the handsomely bound but often unused sets of encyclopedias or "literary classics" found in many homes in the United States. A second problem of a "print count" is the likelihood of underestimation or misinterpretation of literacy activities. Interview data that we collected illustrated these potential problems of misestimation and misinterpretation. When doing an inventory of one child's belongings, we were cautioned by her mother, "But she hardly looks at these books anymore. The ones she looks at are at her grandma's." If we had not inquired, we might have both underestimated the number of literacy objects available to this child, but also mistakenly assumed the child's reading interest and ability to be much lower than it was. Especially when children may spend a good part of the day in the homes of relatives or family friends, a print count of the child's own home will misrepresent materials available to the child.

Print counts may also not catch the flow of books and other materials through the home. Books, along with other children's possessions, go through periodic parental purges. When families move, children's books, along with other household goods, may be put into storage, awaiting a further move to a larger apartment. Also, some families make heavy use of the public library. While they may have at any one time only a small number of library books checked out, their children have access to perhaps hundreds of library books which pass through the home every year.

Literacy Activities and the Value of Literacy

Parents had great interest in their preschool children learning to read and write. Ninety-six percent of the parents (N = 57) were very positive in evaluating the importance of reading to young children, but for many this was a new value. One couple related that they first heard about the importance of reading to children from a parents' magazine that they had picked up when the wife was pregnant. Others were encouraged to read to their children by friends.

The reasons that parents gave for why reading to preschool children was valuable were quite varied and often vague. About a third of the parents said that reading to preschool children has a positive impact on the development of academic skills, such as increased vocabulary, knowing how to ask questions, and learning specific content (e.g., where babies come from). Another third said that it is important to read to children because through that they learn the value of reading, which provides a head start on school. Eighteen percent mentioned general goals such as extended attention span and increased imagination. Two mentioned a positive benefit for their relationship with their child. One said that it was a way to show that "mommy cared." Another felt that story reading was a good way to spend time with her child. Twenty percent gave no reason at all. Thus, parents view story reading as a good child-rearing practice but have few inherent guidelines for its practice. This is especially critical because, unlike other literacy skills like reciting or recognizing letters, story reading has no easily measured outcome nor any cultural prescription about how much is enough.

All parents reported that their children asked to be read stories. "Reading to" was something that the parents felt was natural for children to ask for, and almost all the parents reported that they read to their children. While mothers indicated that they were most often asked to read to their children, others engaged in joint book activities with these children. Fathers, older siblings, aunties, uncles, and grandparents were all mentioned as people that children go to for story reading. Thus, depending on who is in the household, these preschool children go from one older person to another trying to find a willing book reading partner. With a few exceptions, bedtime stories were not a part of these families' routines. Some parents reported that their children wanted to be read a story at night, but in most families this was not the case. Most children chose their own time for bed—usually when they were already falling asleep in the living room watching television or listening to adult group conversations.

While parents insisted that it was very important to read to children, story reading did not happen as often as they thought it should. For many parents, the conflict between the logistics of reading and the comfortable management of relations between adult and child made story reading less frequent than parents themselves wanted it to be. Story reading encounters were almost never parent-initiated, at least not successfully. Rather, caregivers and others read to children when children requested it, and then, not always. Since these interactions were child-initiated, parents complained that their children often picked the same book, or one that was too long, or wanted to be read several books, or picked times for story reading that was inconvenient for them. As one mother said, "She has me read it again and again, the same book. I get so tired." Another said that she had read a great deal to her preschool child during the previous year because she was pregnant and unable to do much else.

Parents often evaluated their children's books in terms of its interest to them and not solely to their children. Thus, parents describe reading stories to children, especially repeated readings, as boring. In addition, parents seemed to resent having to read to their children what and when the child desired. This concern for maintaining parental autonomy made story reading less frequent than parents themselves wished it to be. Nonetheless, some parents reported reading stories to their children, even though they themselves were not very interested in them, because they thought it was good for their children.

Not only parents, but also the preschool children valued looking at books. Overwhelmingly, we found positive descriptions of children's attitudes toward books. Ninety-one percent of the parents noted that the child liked to look at books, 5% had mixed reactions to book reading, while only 4% of them did not like to look at books. All the children were reported to look at books by themselves; often when they had been unsuccessful in finding an older person to read to them. Parents said that their children sometimes just looked at the pictures. However, children often recited a story while following the pictures in books. Clearly children had a concept of reading and seemed to enjoy it as an activity independent of the rewards to be derived from a child-adult interaction. A number of parents mentioned that their preschool children "read" stories to even younger siblings. This activity was encouraged by parents.

Parents noted that their children were also highly involved in learning to write. Of the children, 96% liked to "use" paper and pencil, many with great enthusiasm. Fifty-three percent had started to do what parents thought or what their children described what "looked like writing," and 46% were printing letters or their first name even before they started preschool.

Parents described a number of techniques that they used in teaching their children to write. Some strategies that parents recounted included: (a) writing the child's name on a piece of paper to be copied by the child, (b) grabbing the child's hand and making him write the letters, (c) drawing the letters in the air while the child watched and copied the movements onto paper, and (d) drawing the letters dot-to-dot and having the child connect the dots. Most noted that early on these efforts at direct instruction were not very successful.

One consequence of the widespread availability of materials and the high level of interest by most children was that most children had a repertoire of literacy skills. The children we interviewed had a general understanding of the functions of print by the beginning of preschool. They knew how to hold books, how to "read" the story from front to back, that if you have a book read to you over again, the same story will appear, and that older people could be asked to tell a coherent story related to the pictures.

The Social Environment of Literacy

Parents reported a variety of literacy-related activities, both reading and writing, that older children and adults performed in the home. Preschool children had opportunities to observe people reading newspapers, magazines, and books, writing letters, making lists, working out crossword puzzles, writing out checks to pay bills, filling out forms, and completing homework. It is important to note that these activities were distributed among family members and not characteristic of every adult and older child in the household. An important consequence of this is that the children have more models of readers and writers than just their parents. In addition, children's models of readers were not necessarily the same as their models for writing.

Preschool children are described as highly motivated to follow their older brothers and sisters in literacy activities. "She'll want to do whatever her sister is doing." Many noted that their children eagerly imitated reading and writing activities, especially if they were performed by older siblings or cousins.

In some of our interviews, older siblings gave quite detailed information about the experiences and achievements of the preschool child. In those cases where parents and their older children had differing impressions of what the preschool child could do, the older child was more accurate. This is not surprising, especially in Hawaiian homes where siblings engage in collective work as well as joint play activities (Gallimore, Boggs, & Jordan, 1974).

In addition, caregivers related instances of siblings engaging in explicit teaching-learning activities. Some parents encouraged older children to develop this teacher role. Some believed that older children were more effective than they at teaching the younger children.

Hawaiian preschool children observe a variety of people reading and writing at home. These include parents, older sisters and brothers, as well as extended family members. They are highly motivated to imitate older brothers and sisters reading and writing. In many homes, older siblings model or teach reading and writing to their younger brothers and sisters. For a variety of reasons, caregivers encourage this interaction.

ANALYSIS OF EARLY LITERACY IN HAWAIIAN HOMES

Activity Settings and Early Literacy

Hawaiian homes proved to be a rich environment for literacy activities. The children had access to plenty of materials, despite the relative lack of income in some homes. There were also many literacy activities being carried out by a wide variety of people, thus providing many models of literacy to the preschool children. As well, there was a general attitude of support for early literacy activities. Most children were reported to like books and writing activities. Parents also expressed support for early literacy practices, particularly as preparation for later school achievement.

However, a ..amber of factors diminished the educational potential of these many literacy activities. Parents tended to feel that literacy activities occurred significantly less than they would like or than was optimal for their children's development. The parents themselves found story reading and other practices boring and unpleasant. Many times the children were uncooperative, resisting parents' attempts to set an agenda for learning new literacy skills. Overall, there appeared to be a lack of a "script" or clear definition of an emergent literacy-activity setting among the Hawaiian families in the study. The parents themselves offered a number of explanations for this.

In many households, a lack of the kinds of routines that facilitate early literacy activities was noted. For instance, story reading did not regularly occur at bedtime, as reported in many mainland studies (Heath, 1982). Hawaiian children often choose their own bedtime, frequently falling asleep in front of the television. The result of this is that the activity conforms to the "script" of the main event. For instance, during homework time, the preschool child may be precluded from asking questions since the other children need to concentrate on their own work.

A second factor was that for many parents, early literacy activities such as story reading and word recognition were recently accepted ideas for which the parents had few models in their own experience. Many young parents were aware from friends and relatives that activities such as story reading were important for children, but they themselves had not experienced them in their own childhood period. A more experienced mother who had several teenage daughters as well as a preschool child noted that she was doing many things differently with the youngest child. In particular, she mentioned more intensive teaching of academic-type skills and more story reading. Despite her efforts, she did not feel that she was always successful in this new endeavor. "Her name, how to write her name. I was trying to teach her, but I said 'I must not have that tack. I don't know how to do this.'"

A third factor was that parents had many ideas about what children needed to learn for school, and emergent literacy skills were among the least well defined. While the parents expressed very positive feelings about the value of early literacy activities, when asked about the skills necessary for beginning school, these were seldom mentioned. The academic skills they mentioned are very product oriented and sound very much like traditional reading-readiness skills. The major academic skills cited in an open-ended question at the beginning of the second year of the study include: (a) reciting the alphabet (29%), (b) responding to one's name (30%), (c) recognizing colors (16%), and (d) counting to 10 (29%). There was virtually nothing mentioned about books, recognizing written words, or recognizing letters. A few parents mentioned name writing (11%), but reported a general lack of success on this skill. Much greater emphasis was placed upon a wide range of social skills, the major ones being good behavior (31%), relating well to other children (25%), and listening to the teacher (20%). Self-care skills were also mentioned, with toilet habits being most frequently cited (23%).

In contrast to the skills given above, parents seemed to feel that emergent literacy activities lack clear outcomes and that many of the children's behaviors that researchers hail as indicating early literacy are meaningless. For instance, attempts to teach name writing often resulted in frustration for the person teaching. Likewise, the goals of story reading are unclear to parents, as mentioned earlier. In fact, the current research indicates that the *process* inherent in early literacy activities, for example, making meaning out of text or making sense of a storyline, is more important than any specific *product*. It is precisely the process of literacy activities that proves most distasteful to the parents in our study.

Despite the lack of an emergent literacy-activity setting *per se* that was meaningful to our informants, enough similarities were detected in the accounts given by the parents to suspect that, in fact, implicit cultural models were at work helping to organize the literacy learning of young children. To elicit more extended accounts of the activities of young children parents were asked to give detailed descriptions of specific literacy events, rather than statements about general practices, frequency counts, and so on. Eliciting accounts of full days of events, usually the day preceding an interview, made it possible to compare literacy events to a variety of other learning activities described; all of these activities were embedded in the broader context of the daily routine of the child in question.

Two cultural models seemed to be giving shape to the events recounted, each with its own set of scripts and values. Of high saliency to many parents was the need to socialize the preschool child to the social world of the extended family. Thus, literacy events were often structured in ways that were compatible with the child's prescribed role in the family. A second cultural model was the repertoire of learning and teaching skills routinely used by Hawaiian families across a variety of situations. But rather than being a list or menu of possible strategies, these teaching and learning skills have an internal organization which helps prescribe when each will be used. While these strategies are a resource that becomes applied to early literacy, the internal organization of these skills does not fit well with the general goals of early literacy.

The idiom or metaphor that serves to link these two models together is that of "helping." The motivation to engage in many teaching and learning practices is phrased by children and parents alike as the child's natural need to "help" the family.

Models of Family Interaction

The Hawaiian family ideal is generational with a clear separation between different age groups. This is manifested through kin terms and the ways in which everyday activities are organized (D'Amato, 1986). Children play with children while adults mingle with adults. As a result, children in a family are held jointly responsible for their behavior and for accomplishing household tasks. If one child misbehaves, all the children are held accountable since they did not prevent that child from causing trouble. Thus, after infancy, the bonds within the family extend from the child to a number of people, rather than focusing upon the primacy of the parent-child bond as is so common in the middle-class nuclear family.

Traditional *'ohana* (family) values stress *laulima* and *kōkua*—cooperation and helpfulness (Gallimore, Boggs, & Jordan, 1974; Kanahele, 1986). Members of the *'ohana* are expected to show generosity, make reliable contributions to the family, and have a commitment to the family above individual achievement (Jordan, 1981). The meaning of *'ohana* goes beyond the nuclear family. Many households consist of extended family groups. In addition, widespread practices of informal adoption (*hanai*) and shared resources between related households extend the *'ohana* through to a large network of people.

Children's socialization emphasizes both individual autonomy and family solidarity. As D'Amato puts it, "In a generational system, the duty of the parent is not so much to do for children as it is to equip children with the means of doing for themselves" (D'Amato, 1986, p. 218). Since parents are not always available to the children, children must learn to rely upon their own initiative and help from a variety of sources to manage their daily lives. Thus, they receive very strong socialization about acting appropriately in their social world. While the initial loosening of parent-child ties occurs at the end of infancy in a period called the "shift" by various authors (Gallimore, Boggs, & Jordan, 1974; Howard, 1974), the preschool period is also difficult. The preschool child is expected to show spirit, but any confrontations with adults become strongly sanctioned compared to earlier years. Resultingly, the preschool child has increasing difficulty figuring out how to deal with adults, determining the boundaries for appropriate behavior.

Parents' accounts of literacy events reflect these family-based values. There are so many references to other children being involved in teaching literacy skills, because children are expected to spend most of their time together and to function as a mutually responsible group. Older siblings, especially older sisters, also take initiative in helping their younger sisters and brothers. Within the context of the extended family, there are many people who are considered potential story readers. As long as the child approaches each person in an appropriate way, this is encouraged as a good sign of child initiative. In fact, many children are cared for by a wide range of people, and they come into contact with a large number of adults over the course of an ordinary day.

In line with this pattern (and unlike middle-class parents, e.g., Taylor, 1986), there was a lack of emphasis on how literacy activities foster enjoyable relations between parent and child. In our second-year survey, only 2 out of 57 parents mentioned this. One mother said she had done story reading with her child only because she was pregnant and could not do much else. Children also enjoy their relative freedom to spend time with other children.

The emphasis upon children learning to be autonomous and to self-regulate many of their activities also leads children to resist parent-initiated literacy learning. Coupled with many parents' own lack of interest in reading, many attempts to teach literacy skills turn into confrontations instead of collaborations. This is in part due to parents' choice of teaching methods as well as general resistance from children.

Teaching and Learning Models

Earlier studies have examined how Hawaiian parents teach their children a variety of different tasks (Jordan, 1981; Gallimore, Boggs, & Jordan, 1974). There was evidence that children tend to prefer observation as a method of learning and that verbal modes are rarer and less valued. Initial attempts to elicit this same preference from parents did not work. When asked to choose between observation and asking questions as preferred modes for learning, the preschool parents chose both as their most common responses. Even parents who chose one mode over the other gave qualifications to their responses, such as the individual child's temperament and the circumstances.

As parents recounted specific teaching/learning incidents, it became apparent that the use of any particular strategy was dependent upon the circumstances in which it was used. While direct instruction from parent to child might be preferred in one instance, in another, it might be the least preferred method. We have summarized parents' models in Figure 9.1 which gives some of the salient (not comprehensive) dimensions along which these methods differ.

Each of the teaching and learning methods will be described in turn. Examples were chosen from how children learn household tasks and from literacy activities. At this age, children are just beginning to take on some household responsibility. The contrast between literacy learning and household tasks allows us to see how the parents define each of the teaching and learning styles.

Children learn by watching. Observation as a means of skill acquisition is culturally codified among Hawaiians in numerous proverbs about the right way to learn (Pukui, 1983).

I ka nānā no a 'ike. By observing, one learns.

Nānā ka maka; ho'olohe ka pepeiao; pa'a ka waha. Observe with the eyes; listen with the ears; shut the mouth. Thus, one learns.

There are several important features of observing as a means of learning. For

	Adult Initiated	Child Initiated
Nonverbal	modeling	observing
Verbal	explaining	asking questions

Figure 9.1. Teaching and learning methods.

Hawaiian parents, the process by which their children's observational learning is accomplished is basically unspecified. Children who watch others in task performance are not asked to display their own increasing but perhaps partial competence. Rather, parents seem to expect children themselves to best judge when a public performance is appropriate. Since performance is child initiated, a child's skill acquisition is frequently a surprise to the parents, albeit most often a pleasant one. As the Hawaiian proverbs and the dishwashing description illustrate, observing occurs in the absence of talk about the learning, on the part of both the more and the less experienced participants.

As both quotations show, parents are impressed by their children's astute observation and their willingness to learn. This method fits with the parent's encouragement of general autonomy and the expectation that children will not bother adults too much. When a child masters a household chore by observation, it shows the child's desire to contribute to the family and presages their very real future contributions. However, in the case of early literacy, children are very likely to learn the form but not the content of literacy by pure observation. A number of parents gave anecdotes about children writing letters, taking orders like a waitress, and so on, but the actual writing on the paper was only scribbles. Similarly, children looking at books learn an appreciation for books and some of the major conventions such as starting at the beginning. However, without further interaction with a more skilled reader, a child is unlikely to go beyond Mason's (1980; Mason & Allen, 1986) first level of early literacy development, understanding the relation between text and content. Parents are often not impressed with the sense that children make out of literacy practices, and some were not very encouraging to their children.

Showing someone how to do something entails a greater involvement of the more experienced person. In showing, there seems to have to be both the intention on the part of the more experienced person to make skill learning a salient part of the interaction and a conscious modeling of the behavior to be learned. Children are admired for having the insight to not need direct modeling. Child initiative is appreciated, but many times it can result in children apparently trying to impose their will upon adult behavior. Children at this age are still trying to sort out the norms for when adults are approachable and when they are not. Likewise, children do not necessarily want to be shown something when they are trying to figure it out for themselves.

Another way in which Hawaiian children learn at home is by asking questions. Much of the literature on Hawaiian childhood has noted the nonverbal nature of many interactions (Gallimore, Boggs, & Jordan, 1974; Weisner et al., this volume). The low school achievement of Hawaiian children has also been attributed to inadequate language experience. However, the parents in our sample saw a distinct value in verbally mediated learning. Nearly 40% felt asking questions was more important than observation, while another 40% said observation and question asking were equally important. Their children also valued question asking?"

While questions are appreciated as a natural part of learning, parents in general expressed irritation with this mode of interaction. "He ask a lot. And he repeats himself over and over and over . . . I get so mad 'cause he constantly keep on asking the same thing." Question asking breaches the generational separation between adults and children and could be considered quite rude. The parents in our sample were threatened by their children's questions. In addition to the usual unanswerable childhood questions such as "Why is the sky blue?," the parents were unable to answer questions that they felt they should be able to answer.

The final method of teaching-learning is what we have called direct instruction. While the parents normally simply called this "teaching," we have chosen to call it direct instruction to highlight its relation to school instruction. Direct instruction was the most commonly cited means by which children learn literacy skills.

When a child must be taught to do household chores by direct instruction, it is considered that a child has failed to use more appropriate methods probably because of an attitude problem. The child's expected role in the family is to contribute through their own initiative. The use of direct instruction is considered more appropriate for school skills. Direct instruction is particularly dependent upon cooperation of the child and parent initiative. But this is not totally compatible with other things being taught to the child. It contradicts parents' desires for the child to be autonomous and self-directed.

In many cases, if a child does not cooperate, this is seen as the child's prerogative. Just as the child should not force parents to do anything through excessive questions, the child is allowed the space to assert independence. Since harmonious family relations and socialization to the social world are pre-eminent values in many Hawaiian homes, the teaching of school skills to an individual child gives way as necessary to maintaining the larger group's social dynamics.

Helping as a Mediating Process

Throughout the examples given to us by the parents, helping was repeatedly mentioned as a feature of learning situations. Frequently, it was used as the child's justification for participating in an adult activity. It was also invoked by parents as their goal for helping a child to learn. Although 4-year-old children cannot, in fact, make a substantive contribution to household functioning, they are expected to be oriented towards this goal. Initially, helping looked like another learning style that might be called collaborative or joint participation. However, it was mentioned in relation to all of the teaching-learning styles mentioned above.

Early literacy skills do not fit well within the helping framework. There is no expectations that the young child can help with his or her nascent literacy skills. While academic achievement is an explicit goal in many families, the contingencies of everyday life often put helping functions above individual achievement functions. Many of the families in our sample are living in a state of regular (albeit minor) crisis because of income limitations and other problems of daily life. In such circumstances, the help and independent actions of children become a virtual necessity to hard-pressed parents.

CONCLUSION

In general, we found that the Hawaiian parents in our study had been strongly influenced by the trends towards academization of early childhood. This was manifested both by attempts to directly instruct early academic skills such as counting and the alphabet and by efforts to create a richer childhood environment through provision of books and other materials. There were two exceptions to this trend. A few of the families were marginally functional, and the challenges of coping with daily life precluded any efforts towards academic enrichment. A few others (very few) stated resistance towards pushing young children for future school achievement.

While the parents espoused new values, their practices tended to fit within existing frameworks for early childhood learning. They had not imparted a new activity setting specific to early literacy. A commonly recounted experience was a parent's effort to use direct instruction for early literacy teaching because this was how schools taught literacy activities. But this often did not work well because it violated the norms governing parent-child interactions under other circumstances. A school-based activity setting did not transfer very well to these homes.

Given the lack of a specific activity setting, two cultural models came into play: (a) the model of the family, and (b) the model of teaching-learning practices. The combination of these two models dictates that parents prefer children to initiate literacy activities in ways that are not disruptive to other activities. The frequent result was that young children did not experience the kind of sustained interactions with competent others that would enable them to move through Mason's three levels of emergent literacy development.

Throughout this chapter, we have pointed out the problems inherent to the research methods that have been most frequently used to study literacy in homes. Our results demonstrate the need to incorporate the home's social structure when considering its potential as an educational setting.

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Chapter 10

Preschool Activities as Occasions for Literate Discourse

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Issues around the poor school achievement of minority children have been the focus of much debate, theoretical speculation, and research over the years, and will probably continue to remain a central area of concern in the fields of education and psychology. The discussion on factors that contribute to poor school achievement of minority children has primarily focused on the role of language or verbal skills.

However, the relationship between language use and school success is complex and not easily understood, despite much theoretical work and in-depth research (Blank, 1982; Feagans & Farran, 1982; Heath, 1983; Neisser, 1986; Tough, 1977; Wells, 1981, 1985). This is partly due to the fact that there are many aspects of language to attend to when attempting to delineate the relationship of language to educational success: differences in form, function, content, and sociolinguistic features of language use.

In addition, there are further complexities regarding the match or mismatch between home language experiences and the type of language use expected in school (Brown, Palinscar, & Purcell, 1986; Blank, 1982; Heath, 1981) that make it difficult to make simple claims regarding the source of problems in school achievement.

Our studies on preschool children's language experiences stem from the general problem of Hawaiian children's poor school achievement, which has typically been traced to poor verbal skills. Based on an analysis of the College Board's Scholastic Aptitude Test (SAT) separating verbal and math scores, Tibbetts and Heath (1987) conclude that Hawaii's low ranking among the states is due primarily to the extremely poor performance of students on the verbal portion of the SAT. This tendency of Hawaiian children to perform poorly on verbal portions of achievement tests seems to persist from preschool through high school (Heath, 1985), suggesting that the problem is pervasive.

Our studies were motivated by the need to provide information for program-planning efforts. Therefore, we took a very pragmatic approach in planning the focus of our studies. We wanted to delineate features of preschool language experiences that potentially seem to prepare children for school literacy. In investigating children's language experiences at home, we addressed this question by comparing the language experiences of children who were well prepared for school with those who were not. We examine differences between well-prepared and less prepared children in terms of the communication routines that call for more complex and explicit language. In turning our attention to the language experiences of these children in the preschool, we wanted to explore the features of the communication routines children engage in, as well as of the situations in which they occurred. These are the themes explored in this chapter.

We begin by delineating the specific aspects of children's language experiences we focus on, explaining the rationale for why we focus on these. Then we present data on children's language use in the preschool classroom, noting differences in language use during a variety of typical preschool activity settings.

LANGUAGE USE AND EDUCATIONAL SUCCESS

Exploring the relationship between language and educational success has typically been at least one of the major issues in discussions of the poor achievement of minority children in western school settings. Several hypothesis have been advanced and investigated in attempting to identify the specific aspects of language experience that contribute to variations in school achievement. Tough (1977) suggests that variations in the complexity of language use are linked with success in formal education. She argues that lack of extensive experience in using language to interpret experience, to reason, to speculate about future events, and to project into the experiences and feelings of others puts children at a disadvantage at school, because most of the learning at school takes place through verbal means, through use of language for the above purposes.

While Wells (1977) agrees that habitual use of language for the more complex purposes in Tough's taxonomy contributes to a child's success in formal educational settings, he emphasizes the need to focus on the interactional nature of communication. He argues that a more important and central skill in communication is the ability to collaborate with one's communication partner in the joint construction of a shared reality. He suggests that extensive experience in the joint construction of a shared reality may be the main mediator between home background and school success.

Elsewhere, in arguing that differential attainment in school was largely due to differences between children in their exposure to written language, Wells (1981, 1985) further stresses that the critical feature of preliteracy experiences (such as reading and discussing stories) is the joint construction and elaborations of conversation in parent-child interactions.

The degree of match between the nature of parent-child communication patterns, and the type of teacher-child interactions that dominate classroom dialogue, has also been identified as a factor that contributes to the low school success of minority children (Brown et al., 1986). Detailed ethnographic analysis of the questioning rituals and routines in the home and school settings of children from White and Black communities (Heath, 1981, 1982) illustrate the problems created by the mismatch between communication patterns of Black children from working-class backgrounds and their white middle-class teachers. Heath's work demonstrates quite effectively that, while the language experience of Black working-class children at home is equally rich in linguistic and cognitive content, it provides less of a match with the questioning rituals and communication routines that are typical in school.

Differences Between Oral and Written Discourse

Analysis of the differences between oral and written discourse is another promising avenue that has been explored in attempting to identify what are the specific linguistic skills that are essential for school success (Blank, 1982; Torrance & Olson, 1985). The approach typically taken is to begin with delineating the essential characteristics or features of written language and then identify oral discourse routines that share at least some of these features. This approach has provided the direction and rationale for our focus on communication conditions that elicit oral communication routines that resemble literate discourse.

In the following paragraphs, we summarize major differences between oral and written discourse discussed in the literature, as well as the communication conditions that elicit literate discourse. We identify oral communication routines which resemble literate discourse, in that they call for the use of complex and explicit language.

Reading and writing are viewed as specialized forms of communication, which take place under specific communication conditions. The conditions affect the communication tasks speakers and writers face and the language devices and conventions necessary to perform these tasks. Writers and their readers are not in the same place at the same time. Writers need to communicate to absent listeners who are not in the same context, who may not have the same background knowledge, who cannot see the writer for nonverbal cues, and who cannot give the writer feedback about how well the communication is coming across (Chafe, 1985; Tannen, 1982). To communicate effectively to absent listeners, writers have to be extremely explicit, coherent, and cohesive.

Linguistic forms have arisen to enable writers to: (a) refer explicitly to nonpresent objects, people, events, and places, (b) organize ideas in a coherent fashion, and (c) organize the written text so that it has thematic cohesion. Part of learning to read and write consists of becoming familiar with the linguistic and structural devices used to perform these tasks. In order to write and read effectively, children need to learn to speak explicitly, to order ideas coherently, and to organize expression into cohesive discourse. It also may be crucial to learn conventional ways of performing these discourse tasks (Cazden, Michaels, & Tabors 1985).

Literate Oral Discourse Routines

Since children first learn to organize ideas and be explicit in oral language, it is necessary to identify speech events and communication conditions that elicit explicit and semantically coherent talk. In delineating the critical aspects of children's language experiences at home that underlie school success, Wells (1981) has emphasized the importance of extended conversations and discussions. He states, "whilst part of the facilitating experience of the more successful children involved the shared activities of being read to, and looking at and talking about books, equally important was the way in which everyday events were picked up in talk, and meanings developed and made more coherent through extended conversation" (p. 263).

Cook-Gumperz, Kaltman, and O'Connor (1984) go a step further to list a number of speech events which resemble literate forms. Narrating and reporting entail long, self-structured speaking turns during which new information is conveyed to a naive audience, using explicit linguistic forms. Reporting events that have occurred in the past requires background explanations. Planning and speculating also call for explicit explanations. These events deal with future topics. Justifying, describing, and explaining tend to elicit literate discourse features when the topic is not in the here and now.

Forms which do not resemble literate discourse are: competing for social status, disputing, blaming, scolding, and commanding. However, in some control routines (such as ritualized insulting, lecturing, singing praise, and formal arguing), provision is made for a long speaker turn. In these cases, literate features may emerge.

Young children report, tell stories, speculate, fantasize, and plan in the course of their daily activities. At school, some literate-style discourse events are formalized, such as "show and tell," giving reports, and acting out plays. Beyond formal events, however, some communication routines seem to be closer to the literate end of the oral-literate continuum than do others. In an analysis of syntactic language forms used during different communication routines, Martini (1989) suggests that more complex language is likely when the interaction or communication exchange is focused on information exchange rather than on regulating behavior or negotiating actions or services.

Summarizing the differences between oral and written language, three communication conditions are identified that characterize oral routines (narrating, reporting, explaining, planning, etc.) which elicit literate discourse devices. These are:

1. The speaker has a long, protected speaking turn, or frequent, autonomous speaking turns
2. The speaker talks about information that is new and interesting to the listener
3. The speaker talks about abstract, or distant information

To summarize the description of the communication conditions that seem to elicit literate discourse, we draw on Wells and Montgomery's (1981) description of two major features of discourse: (a) *discourse roles* (whether the child initiates or responds), and (b) *discourse commodities* (what the interactants talk about during the exchange—information or goods and actions). We began with the assumption that the following communication conditions will elicit complex and literate forms of language use: (a) the child takes on a more active discourse role (i.e., frequently initiates exchanges); (b) the discourse commodity is information exchange (especially about topics which are removed in time and place). These, therefore, were the specific features of discourse that we examined in our analysis of our preschool children's language experiences.

ACTIVITY SETTINGS AS CONTEXTS OF LANGUAGE EXPERIENCES

Since language experiences are embedded within a complex social context, any analysis of language is incomplete when context is not considered. However, a truly integrated annlysis of individual skills or experiences within a social context is not a simple matter. Scholars, studying all areas of development, have turned to the significant contribution made by Vygotsky's writings (1978) in laying the groundwork for the integration of individual development in sociocultural context.

Vygotsky stressed that development involves children internalizing skills from their participation in joint activity and problem solving with more skilled partners. The sociocultural approach further provides a means for integrated analysis of individual, social, and cultural/historical levels through the analytic unit of activity (Leont'ev, 1981; Wertsch, 1985). It is through participation in joint activity with others that individuals learn to use the intellectual tools and strategies (such as language, number systems, mnemonic devices) of their culture. Children learn by participating in activities that would be impossible for them alone, using cultural tools and strategies that have been adapted to the specific activity at hand, and thereby passed along to them by their more skilled partners.

The activity setting as a unit of analysis consists of individuals engaged in goal-directed behavior, carrying out actions within a framework of shared cultural assumptions and expectations (Cole, 1985; Leont'ev, 1981; Wertsch, 1981, 1985). This concept has been used to understand the social context of learning skills or strategies through interactions with more skilled people, in the teaching-learning activities of early socialization (Weisner & Gallimore, 1985) and in educational settings (Tharp & Gallimore, 1988).

Tharp and Gallimore (1988) operationalize activity settings as the "who, what, when, where, and why" that describe an event or experience (p. 74). "Who" represents the persons present in activity settings; "what" represents both a description of the things that are done, and a description of how they are done; "when" represents the time or schedule features; "where" refers to the place where the activity occurs. Finally, the "why" may be the feature that has the most impact on the activity, because it represents both the motivation and the meaning of the activity in the minds of the participants. In spite of superficial similarities in the previous four descriptive dimensions, two activity settings may have very different implications for how things are done because of differences in the cultural meaning of the activity and the interactions (see Tharp & Gallimore, 1988, pp. 72–79, for a detailed description).

In our analysis of children's language experiences we discuss the activity settings within which they occurred, focusing on the components just described. We present preliminary data to discuss differences in children's discourse roles and the content of their discourse as a function of the various activity settings that are typical in preschools.

LANGUAGE EXPERIENCES IN THE PRESCHOOL

We present preliminary data from observations of six 4-year-old children. The six children were part of a larger study on children's language use at home and school. The children came from families that lived in ethnically mixed neighborhoods. Three families had annual incomes under $5,000, while the household income for the other three families ranged from $15,000 to $25,000. The parents of the six children ranged in age from 19 to 40. Level of schooling for mothers ranged from sixth grade to 2 years of college, and for fathers from eighth grade to 2 years of graduate school.

Nature of Data

The six children were observed both at home and at school over a period of 4 to 5 months. Since data from the class observations are discussed here, we only present the procedures for the class observations. Children were observed on four separate occasions in the preschool classrooms over a period of one month. Each observation was about 1 to 2 hours long, and sampled the morning through lunch sessions of the preschool daily routine. Approximately 3–4 hours of observations were collected for each child. Our present analysis is based on approximately 3 hours of observations at school for each child.

The observations were naturalistic in that children were observed as they went about the normal routine in their preschool classroom. Some of the children were videotaped. The database used in the analysis consisted of written behavior records. In writing the behavior records, the observers described the child's behavior as it occurred (either when observing live or when transcribing the videotapes). Both interactive and noninteractive behaviors were recorded.

The behavior records included information about the following: the activity setting within which the behavior/interactions took place; the people involved in the interaction, as well as those present but not directly involved; the activity, behavior, and content of talk of the people involved in the interactions; and the physical setting where the behavior/interaction took place. The procedure for writing the behavior records, and for segmenting them into communicative moves and interactive exchanges, followed the systems of Ochs (1979), Sinclair and Coulthard (1975), and McTear (1985).

The communicative moves were then coded, using a coding system developed on pilot behavior records. The coding system was designed to code the activity setting, the interactive partner, and the nature of communication behavior (in terms of discourse role and discourse commodity) for the target child and the interactive partner.

Coding Procedures

The codes for activity settings were designed to identify the primary focus of the ongoing activities, which served as the context for the target children's behavior and interactions. As can be seen from Table 10.1, the activities were typical of most preschool programs.

Table 10.1. Coding Categories for Preschool Activity Settings

Primary Focus of activities	
1. **Engagement with object and materials:** Includes activities during which children are primarily engaged in sensorimotor manipulation such as play with puzzles, sorting and classification of materials or fine-motor tasks such as cutting, pasting, etc.	1. **Prescribed crafts activities:** pasting and cutting pictures, making a hat. 2. **Worksheets:** Tracing numbers, shapes 3. **Puzzles & other materials:** matching games/cards; sorting/classification objects, number puzzles, seriation rods etc. 4. **Science corner:** exploring materials of different textures, rocks, leaves etc. in science corner. 5. **Library corner:** looking at books, listening to tapes
2. **Discussions:** Includes activities that primarily focus on discussions, e.g., storytelling/reading, discussing field trips, demonstrations.	1. **'Lessons' or demonstrations:** e.g. cooking demonstration and discussion 2. **Story times** 3. **Show and tell** 4. **One-on-one adult-child conversations** 5. **Morning circle time:** e.g., planning time, calendar exercises, word-and finger-play exercises.
3. **Symbolic Play:** Includes activities that primarily provide opportunities for symbolic or fantasy play.	1. **Dramatic play** or home area/doll corner. 2. **Block area/building materials,** e.g., play with blocks, cars, trucks, road props etc. 3. **Free play** with arts & crafts materials, such as Play-Doh, finger paints, crayons.
4. **Meal times:** Includes snack times & meal times.	1. **Snack time.** 2. **Lunch time.**
5. **Transition times:** Includes transition routines & clean-up activities.	

The codes used to identify the *interactive partner* for each communicative move are presented in Table 10.2. At school, there were only two adults available as interactive partners, the teacher and teacher-aide. All the peer interactive partners were the same age as the target child.

We also developed a system for coding the communication of children's interactive exchanges, drawing on the work of Sinclair and Coulthard (1975), Wells and Montgomery (1981), Halliday (1977), and Lucas and Borders (1987).

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Table 10.2. Coding Categories For Interactive Partner

Major Categories

1. **Adult**
   1. Teacher
   b. Teacher-aide
   c. Other adult

2. **Peer**
   a. Single peer
   b. Peer group (e.g., when addressing a small group of peers)

3. **Mixed Group**
   Child addresses a group consisting of adults and peers as in "show and tell" activities.

4. **Nondirected**
   Child's utterances are clearly self-directed or do not appear to be directed to anyone in particular

5. **No Communicative Behavior**
   Child performs an action/actions but does not talk.

Table 10.3 presents the major codes for *communicative moves* and a brief description of each category. The codes are based on Wells and Montgomery's (1981) delineation of two major features of discourse: (a) discourse roles (whether the child initiates or responds), and (b) discourse commodities (what the interactants talk about during the exchange).

Discourse role and discourse commodity define the rows and columns of the table, clarifying how the codes identify groups of communication behaviors that can be categorized along the two aspects of discourse role and discourse commodity. Thus, in coding communication behavior, we code the discourse role of the child (initiator or respondent), and the discourse commodity that is the focus of the interaction (e.g., information exchange, regulating actions).

Nature of Communication During Various Preschool Activities

We first present data on the kinds of activities that took place, whom the children interacted with during these activities, and the nature of their communicative behavior (in terms of discourse role and content of talk) during these activities. Then we present excerpts of children's conversations, to illustrate typical communication routines. We also explore features of activity settings that create communication conditions that call for literate-style discourse.

Table 10.3. Coding System for the Communicative Functions of Moves

	Discourse Commodity: What the Exchange Is All About		
Target Child Initiates Exchange With Other:	**Requests information:** Child requests information from the other that he or she does not have. **Offers information:** Child offers information. Child describes, informs, analyzes, demonstrates, explains, predicts, or states an opinion.	**Asks for didactic information:** Child requests information that he or she already has.	**Requests or demands actions:** Child requests or demands the other to act in a particular way; or restricts other from following his or her own agenda. **Offers actions or services:** Child offers support, help, comfort, or praise.
Target Child Responds To Other's Initiation:	**Responds to request for information:** Child responds by answering, ignoring, or refusing to answer. **Responds to information offered by other:** Child responds to other's statement by commenting, ignoring, or refusing to comment.	**Responds to request for didactic information:** Child is asked a question to which the other already knows the answer. Child responds to other's request to label objects, colors, shapes, etc.	**Responds to other's request for action:** Child responds to other's directives by complying, ignoring, or resisting the demands. **Responds to other's offer of support:** Child responds to support by accepting, ignoring, or rejecting it.

Preschool Activity Settings

We observed five major categories of activities:

1. Activities that were primarily set up for learning through verbal interaction (such as discussions and story sessions)
2. Activities with primary focus on sensorimotor manipulation of objects and materials
3. Symbolic play
4. Meal and snack times
5. Transition times or moving from one activity to another

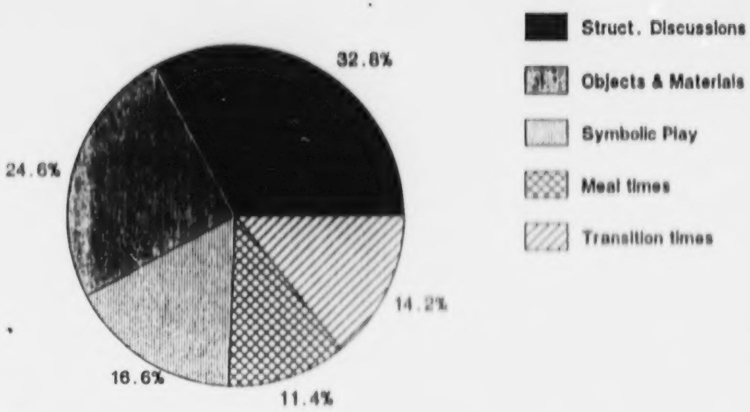

Figure 10.1. Frequency of Behavior Units Preschool Activity Setting

Figure 10.1 presents the distribution of behavior units (including communicative and noncommunicative behavior) among these major activity settings. The figure represents the frequency of observed behavior units that occurred in each activity setting as a percentage of total behavior units observed. A total of 1976 behavior acts/units (communicative and noncommunicative behaviors) occurred during the 18 hours of observations (3 hours per child) that constitute our database for this analysis. The children were observed on four separate days during activities sampled from the morning sessions (8:00 a.m. to noon) of the preschool day.

Three quarters of children's behavior acts occurred in activities that typically constitute a major part of most preschool programs, that is, activities involving structured discussions; sensorimotor and cognitive tasks (such as putting together puzzles, peg boards, seriation tasks, etc.); and symbolic play.

Figure 10.2 presents the distribution of interactive partners (averaged across the six children) among the five categories of preschool activities. For the rest of the analysis we only use communicative units as our focus is on communicative behavior.

As expected, children interacted mainly with the teacher during structured discussions/talk, while they interacted mainly with peers during symbolic play. Children interacted equally with teachers and peer during sensorimotor activities and meal times. During transition times, children interacted slightly more with adults than peers, perhaps because teachers actively supervised and structured what went on at these times.

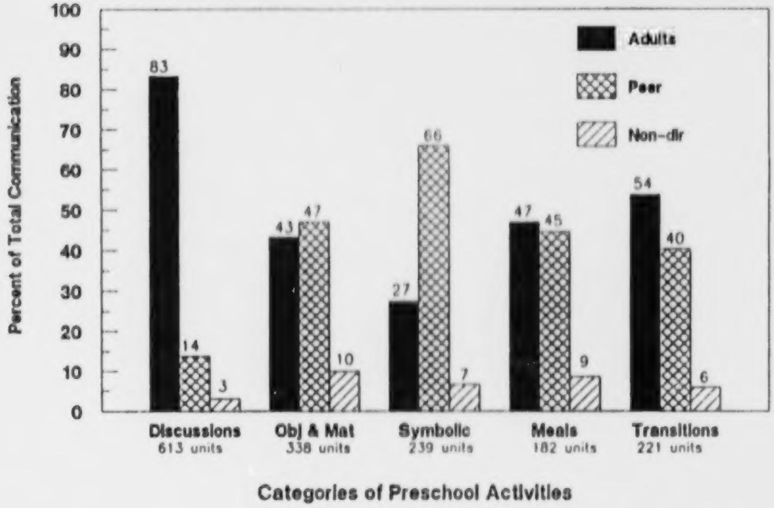

Figure 10.2. Children's Interactive Partners During Various Preschool Activities

Discourse Roles and Content of Communicative Acts

Figure 10.3 presents the distribution of different kinds of communicative acts within each of the five preschool activity settings. Communicative acts have been categorized into three groups by collapsing the codes within each column of Table 10.3—resulting in the following categories: Information Exchanges, Didactic Exchanges, and Regulating Action Exchanges. During Information Exchanges children offered new information, asked their partner for information or answered the partner's requests for information. During Didactic Exchanges, teachers asked "test" questions for which they already knew the answers (to test children's knowledge), and children answered these. During Behavior-Regulation Exchanges, children tried to persuade each other to act in particular ways, or, alternately, they responded to teachers or peers trying to persuade them to act in particular ways.

As evident from Figure 10.3, certain kinds of exchanges occurred more frequently during certain kinds of activities. During symbolic play activities, sensorimotor activities, and meal times children tended to engage in relatively more information exchange than they did at other times. During meal times more than 50% of the communicative exchanges consisted of children exchang-

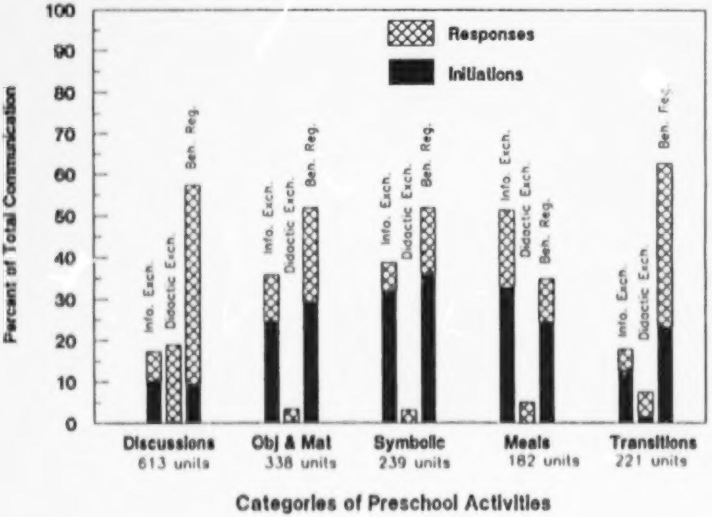

Figure 10.3. Children's Communicative Acts During Various Preschool Activities

ing information. Most of these were initiated by the target children. During transition times, children were primarily involved in behavior regulation. This makes sense, considering the nature of cleaning up routines and transition routines, which call for the regulation of actions and behavior.

During structured discussion activities children engaged in relatively little information exchange. The only time children provided any information was in response to teachers' didactic ("test") questions to find out what children knew. Most of the time children were responding to the teacher's requests to act in a certain way, as she directed them through the discussion.

Children's Conversations During Different Activities

We now present each activity setting separately to delineate features that most likely created the communication conditions reflected in data just presented (in the figures). We also discuss the opportunities created by these communication conditions for literate oral discourse and illustrate these points with examples from children's conversations. Most of the children in our sample spoke Hawaiian Creole, and this is reflected in the transcripts of their conversations.

Teacher-Structured Discussions

Almost a third of children's observed behavior (see Figure 10.1) took place during activities that were primarily set up for learning through verbal interactions, such as story times, discussions, and show-and-tell. At such group times teachers often led discussions of the day's events, or upcoming field trips. During another typical group time ("morning circle") teachers began the day with greeting songs, led routines for counting and recording presence and absence of children, choosing helpers/leaders.

Teachers systematically planned and carried out these activities because they had very specific goals in mind. Often the teacher's goal was to expose children to new information and then ask questions so they could demonstrate this knowledge. For example, a major goal of the counting exercises with the calendar was to introduce number, day, and date concepts. A major goal of story-reading sessions was to expose children to new experiences and to narrative structures. The purpose of most structured lessons was to expose children to new information such as labels for objects, animals, colors, and so on and to learn the question-answer routines that Wells (1977) terms *requests for display* and that Mehan (1979) has described as *question-answer-evaluation* sequence. The teacher asks a question, child indicates desire for speaking turn, teacher calls on child to answer question, child answers, teacher evaluates answer. Because teachers were trying to accomplish specific goals during these activities, they kept tight rein on the interaction process.

Understandably, then, 83% of children's communicative acts were directed towards the teacher during these activities (see Figure 10.2). Further, over 50% of children's communicative acts (see Figure 10.3) consisted of responding to teacher's attempts to get them to act a particular way (e.g., sit still). Exchanges such as the following were typical: A preschooler complies with classroom rules and is rewarded by the teacher:

Teacher: 'Kay, boys, and girls, we just have, about 20 minutes for center time
Child 1: Ooo!
Child 2: Teacher, look at. I sitting nicely.
Teacher: I know you are. And you know what, K.? Because you had your thinking cap on, and you're sitting so nicely, . . . I think you'll have your first choice of what center you'd like to go in, okay?

Teachers faced the difficult task of keeping 20 young children on the same topic during these group times. Therefore, they had to initiate exchanges and maintain control over the interaction, while children played a primarily responsive role. In the following interaction, the teacher and children plan what they will do during "interest center" activities. The teacher is explaining some of the rules for using materials when a boy starts to talk about the school he will be going to at the end of the preschool year. The teacher picks up the new topic, but she also takes over the responsibility for carefully structuring the discussion:

Teacher: Okay, this morning, okay, we are going to our centers. But please remember, okay, that when we take out anything, we need to remember that we need to also put that away.
Child 1: Aunty, pretty soon pau school, yeah? And my mom went take me to, one 'nother school (in this instance 'pau school' refers to the end of the school year)
Child 2: My mom too.
Child 3: My mom too.
Child 4: Guess what? J. and me going . . .
Teacher: To the same school?
Child 4: Yeah.
Teacher: Okay, before we go into centers, yeah, let's talk about that. How many of you are going to Pu'uhale Elementary school for kindergarten?
(Several children raise their hands)
Child 3: Teacher, Teacher, I like go W.'s school 'cause—.
Teacher: What did I ask? Who is going to what school?
(No one responds)
Teacher: Pu'uhale.
(No one responds)
Teacher: Okay, are you going to Pu'uhale?

During these discussions children spent relatively little time exchanging information that was new to the listener (17% of their communicative exchanges—see Figure 10.3). Almost a fifth of their communication consisted of responding to the teacher's didactic questions that were similar to the requests for displays described by Wells (1977) and Mehan (1979). To answer these questions correctly, children needed to think of the past, speculate about the future, make mental connections or inferences, and note similarities and differences. Thus, children's thinking underlying the correct response was often complex. However, the verbal responses themselves were not linguistically complex.

In the following excerpt, the aide reads a book about the harbor. Most children participate by using single-word responses or short phrases. However, they are expected to visualize abstract scenes in order to follow the teacher's train of thought. The aide explains how toys and books are carried on boats from California, unloaded at Honolulu harbor, and then carried on trucks to the schools where they are delivered. When the aide realizes that some children have not quite understood this explanation, she simplifies it by describing the transportation process step-by-step:

Teacher: Okay, let's pretend this is all water over here. This is all water, water, water. Okay? Can I go in?

Children: No!

Teacher: No, it's, it's deep. Can I drive my car on it?

Children: No!

Teacher: Now, this is the harbor. And what's at the harbor?

Children: Boats.

Teacher: Boats, okay. And pretend I'm a boat. And I'm bringing new books for Ulupono preschool. And the boat comes. Does the boat go in the parking lot?

Children: No.

Teacher: Where does the boat go?

Children: In the water.

Teacher: In the water. So the boat comes to the edge of the water. There is no more water. . . . . So, T. is the truck. You be a truck. Okay? . . . (Teacher goes on to ask some children to be the workers at the harbor and unload the toys and put them on the truck).

Teacher: Okay. Are you gonna drive on the water, or on the land?

Child 1: Land!

Teacher: Okay, go ahead. Drive 'em to Ulupono preschool. Got it now? You understand?

Child 2: Yeah.

Teacher: You understand? The boat brings it on the water and the truck carries it on the land.

In another example, the teacher tries to elicit letter recognition by playing a guessing game, during the morning routine of choosing helpers for the day. Again, it is evident that children reason, make inferences, and note similarities, even though they respond in simple, short sentences.

Teacher: This um, boy's name, that we use in class, starts like this. (She writes the letter 'K' on the board.)
(Several children call out names.)

Teacher: What letter is that?

Child 1: K.

Others: Keone.

Teacher: It could be Keone 'cause-
(Children continue calling out names starting with K.)

Teacher: What about Kainoa?

Child 3: No, because her, she not the boys. (The teacher had previously specified she was writing a boy's name.)

Teacher: Okay. I'm going to give you another hint. (She writes the second letter of the name—the guessing goes on)

Teacher: K-A-I . . .

Child 1: Kaipo!

Teacher: It could be Kaipo. Could it be anyone else?
Child 2: No! It is Kaipo.
Teacher: Okay. Let me give you another letter (writes an 'N' and the guessing continues till teacher writes the whole name and children read it out—"Kainalu.")

As evident from these examples, children responded in simple sentences. They rarely needed to elaborate or explain an answer at length. Sometimes, when a teacher did not understand a child and encouraged him to elaborate, she inadvertently caused an impasse. This tended to occur when the teacher had absolutely no clue of what the child was trying to say, and when the child did not know how to make the message more explicit. This is probably why many comments children make during a "discussion" are often not pursued for clarification.

In the following excerpt, the teacher tries to understand a mental association made by the child. Her efforts seem doomed until another child explains the comment made by the first child. Children try to guess the name of that day's leader:

Teacher: It says Kainalu (referring to the name she has written on the board).
Child 1: Yeah! He the leader!
Child 2: Kainalu wave.
Teacher: Pardon me?
Child 2: Kainalu wave.
Teacher: Kainalu what?
Child 2: Kainalu wave.
Teacher: Wave?!
Child 2: Yeah.
Teacher: He waved?
Child 2: Kainalu.
Child 1: No! *Kainalu* mean *wave*. The waves. Kainalu means, Kainalu wave!
Teacher: Oh, I'm sorry! Okay, yes, that's right. Kainalu means wave. I forgot. (The translation of the Hawaiian name *Kainalu* is *wave*.)

During such structured discussions, children rarely described or reported events or personal experiences at length. Children are typically given the chance to do so during "show-and-tell" or sharing-time activities. However, these situations did not occur at all during our observations.

Typically, two purposes of "show-and-tell" activities are to provide children with experience in talking in front of groups, and to help them learn to express themselves in a coherent, explicit manner. Children are usually free to talk about whatever they want. The teacher comments on what children say and asks clarifying questions, thereby enabling children to extend their thoughts. Michaels and Cazden (1986) describe such exchanges as "teacher/child collaborative exchanges" which they define as "connected stretches of discourse in which, jointly, teacher and child develop an elaborated set of ideas on a particular topic—as for example in giving a narrative account, summarizing information, describing an object, providing evidence, or giving an argument" (p. 133).

Michaels and Cazden (1986) also highlight two features of such exchanges that make them important literacy-related classroom experiences for children. First, expansions are a result of interaction with another speaker who provides an interactive slot and thematic focus for new information that clarifies or elaborates. Secondly, the child gets practice at being lexically explicit and packing more new information into a single syntactic unit.

The professed purpose of "discussion" activities is to extend children's language skills. However, the discussions we observed did not require children to use complex language. Similarly, Michaels and Cazden's (1986) analysis of sharing time activities in a number of classrooms suggests that, often, children in the same classroom do not get equal opportunities to participate in elaborate teacher-child collaborative exchanges. Teachers collaborated more successfully with middle-class White children who used the same set of discourse conventions as teachers did. Teachers collaborated less successfully with Black children who used a different set of discourse conventions.

In our data, activities that were designed for learning through verbal interaction did not provide children with experience in using complex language. Children had few opportunities to initiate exchanges and to exchange information that was new to the listener (only 17% of their communicative acts involved such information exchange). They participated mainly in question-answer routines that resembled those described by Wells (1977) and Mehan (1979). These routines did not call for linguistically complex language, even though children needed to understand cognitively complex ideas in order to answer correctly.

Engagement with Objects & Materials

A quarter of children's observed behavior occurred during activities that focused on learning through concrete activity with objects and materials, as opposed to learning through verbal interaction (see Figure 10.1). During such activities children played with puzzles, worked on sorting, matching, and discrimination tasks, and completed arts and crafts activities. While children did talk and discuss during these tasks, the activities were primarily designed for learning by doing. Children interacted both with peer and with adults during these activities (see Figure 10.2). They initiated more than half of the communicative acts and exchanged new information a third of the time (see Figure 10.3).

The nature of activity influenced the content of children's conversations. As

Tharp and Gallimore (1988) specify, both the tasks themselves, as well as the 'scripts' (way in which they are carried out), are important aspects of any activity setting. In our observations, it was clear that the nature of the task itself had an integral influence on the content of children's conversations.

Many of the tasks were concrete, which generally tended to focus the children's talk on their current activity. Because they were involved in a shared activity, visible to all, children could refer to their actions or objects implicitly, with few words. They were also able to communicate by pointing and gesturing. Children described or justified their current actions. In the following example a few children color at the art table.

Child 1: Kapena ain't pau.
Child 2: I'm coloring, I coloring, I'm coloring, I'm coloring, I'm gonna color the water. I'm going color the water blue.
(Child 3 takes the container of crayons that is kept in the center of the table.)
Child 1: Eh! Stop it! I'm telling. Gotta leave 'em in the middle.
Child 3: I cannot, I cannot reach.
Child 4: What about me? I can reach. See?
Child 1: I gotta use brown.
Child 3: I cannot see what color I like. There.
Child 1: I color all the shovel brown.

In the example above, talk was closely tied to the ongoing activity. Often children used implicit communication (e.g., gestures accompanying vague references) to refer to objects and actions. When they exchanged information while working on concrete tasks such as the one in the example, this was mostly limited to describing their actions or the objects they were working with. They did not often venture into the more complex and abstract realm of talk about the past or future.

The nature of the script for carrying out the task also influenced the content of children's talk, but in a different way. This is the second dimension of the "what" of activity settings that Tharp and Gallimore (1988) describe and refers to how the task is carried out. For example, sometimes concrete activities were so rigidly prescribed or routinized that children did not need to talk about what they were doing. In these activities children talked about past experiences, teased, or played word games. In the following example, a small group of children sew starfish puppets at a table. The task was a prescribed task, and the teacher-aide had explained the task so that each child knew what to do. Further, each child was working on his or her individual puppet, so there was no need to negotiate materials. While they work, the children start to play with a rhyme they know. The original rhyme is:

Fishy, fishy in the brook,
Father caught you with a hook.

Mother fried you in a pan;
Baby ate you like a man.

The children substitute actors and actions in the original rhyme, in clever ways:

Child 1: Finger, finger.
Child 2: Finger, finger, in the hook. Daddy caught 'om with the hook.
Child 1: Not like that! Fishy, fishy, in a book. Daddy caught it with a hook. Mommy fried it in a pan.
C 1 & 3: Brother ate it like a man.
Child 3: Man.
Child 1: Man, man, man!
Child 2: What's how you say this one? Daddy, I like one.
Child 1: Fishy. I going do one new song. Fishy, fishy in a brook. Mommy catch it with a hook. Daddy catch, Daddy fry it in a pan. Brother ate it like a . . .
Child 4: Piggy.
Child 1: Man. Daddy ate it like a boy.
Child 3: Nah!
Child 1: Fishy, fishy in a brook. Um, um . . .
Child 4: Mom, mommy fried it, no, mommy caught it with—
Child 1: Fishy, fishy in a brook.
Brother catched it with a hook.
Child 3: Daddy ate it like a boy.
(Children laugh.)
Child 1: Daddy fry it in a pan. Mommy ate it like a man.
Child 3: Like a boy. (Children laugh)

Thus, during object-focused activities the nature of the task/activity apparently influenced what children talked about. In a third of their communicative acts, children exchanged information with their partner; however, most of the time they just described their activity. Only when they were involved in highly routinized tasks did they tend to talk about objects or events that were removed in time and space.

Symbolic Play Activities

Approximately 17% of children's observed communicative acts occurred during symbolic play activities, such as play with blocks, Lego, building sets, and so on; or creative activities with materials such as Play-Doh, crayons, paints, and so on; or dramatic play. As expected, children interacted primarily with peer (see Figure 10.2), and they shared information with each other (40% of the communication; see Figure 10.3). The target children initiated much of the conversation.

Since activities included in this category varied in terms materials and task, these influenced the content of children's communication. When children were involved in the creative use of relatively unstructured materials (such as making Play-Doh shapes or free play with blocks), they often described current actions, as in the following example. A few children play with Play-Doh:

Child 1: (rolling Play-Doh into balls) I like make plenty balls. I made three small balls.
Child 2: Look how I make big ones. I go make, I go make big ones too. Ikepono, me and you going make big ones.
Child 1: I not going make big ones all the way up to the sky.
Child 2: Who said I going make? Ho! Mines one big! I going, tear this down. Tear this one down.

However, when children played in the home area or dramatic play corner, where the materials and props were thematic, they talked about more elaborate and thematically related topics. They built scripts and created scenarios for fantasy play. They explained and clarified scripts and roles to each other. In the following example two girls play in the "home corner":

Child 1: I take this telephone.
Child 2: I take this side.
Child 1: I take this telephone. (Into telephone): Mom. Mom!
Child 2: (Speaking into other telephone.) Oh, hello, daughter.
Child 1: I, I need your help. Pau school already. You 'pose to pick me up at 5 o'clock 'cause the bus is down here already. (*Pau school* means that school is over for the day).
Child 2: Oh, don't worry. I'll pick you up. Somebody is gonna pick you up in a little while, okay?
Child 1: Okay. Goodbye.
(Some more discussion of where 'mom' will pick Child 1 up. Conversation continues as Child 1 decides to make a change in plans.)
Child 1: Mom, mom!
Child 2: Bring, bring! (simulating the ring of the phone). Hello!
Child 1: Um, the bus driver is coming down there.
Child 2: Where?
Child 1: Down, down your, down our house.
Child 2: Huh?
Child 1: He's coming down our house.
Child 2: He is gonna drop you off?
Child 1: Yep.
Child 2: Oh, okay. Get going.

First, the two girls create the scenario. They select their props (the phones) and the first child explains the proposed theme (making arrangements for being picked up from school) to the other child. Then, in the second half of the children's conversation, the first child decides to make a change in plans for being picked up, and now has to clarify this change to the second child who plays "mom." The second child is at first confused, which leads her to request clarification and rephrase the first child's statements ("He is gonna drop you off?") in order to understand the change in plans. It is through such type of interactive and interpretive communication that children learn to expand their utterances and to become more explicit and coherent in getting their message across, thereby learning some features of literate discourse.

In the teacher/child collaborative exchanges described by Michaels and Cazden (1986), children need to clarify, structure, and expand their talk in response to the teacher's questions and comments. Similarly, during dramatic play children need to expand, elaborate, and make their messages clear. However, in this case, it is the symbolic nature of play that elicits explicit language (Pelligrini, 1982, 1984). Pelligrini suggests that children gain practice at lexicalizing meaning as they negotiate different roles and define symbolic transformations. Thus, dramatic play becomes a key preschool activity that serves as an occasion for literate discourse.

Meal Times and Transition Times

A quarter of children's communicative acts took place during transitions from one activity to the other, and during snack and meal times. During transitions children primarily engaged in regulating behavior (see Figure 10-3), as they cleaned up an area, put things away in cubbyholes, or prepared for snacks or meals. We do not discuss transition routines further, because they were brief periods and were not designed for any extended conversations.

Even though a relatively small proportion of children's communicative acts took place during meal times (11.4%), these activity times were rather interesting because of the nature of the conversations that took place. There were relatively few interactive constraints during meal times (children could talk with whomever they wished). Since eating and drinking did not take up much of children's attention, they were free to chat and socialize with each other. Children often talked about personal experiences or shared information that was new to the listener (over 50%—see Figure 10.3).

In the following example, children are at their lunch tables. Initially, they help each other open milk cartons. Then they start to talk about a fight that had occurred between two children earlier that day. The teacher is also at the children's table and is involved in the discussion. One of the girls had punched a boy who had lost some money she had given him for safe keeping.

Child 1: (referring to the girl) How come she punch Bronson?

Teacher: Okay, the reason she punched Bronson is because Bronson was holding her money in his pocket. And, I don't think Bronson did anything wrong. He had a pocket and she didn't have a pocket. So I, is that why you had the money, Bronson? 'Cause you have a pocket?

Bronson: Yeah, then, so we put it in.

Teacher: Yeah. Okay. So he was holding the money, but he lost one part. And when she--

Child 1: (interrupting) The dime.

Teacher: The dime. Right. Then she, he gave her the quarter but he couldn't find the dime. So then she punched him. So that's what I saw. I saw her punching Bronson. So I got angry! Now what could she have done instead of punching Bronson?

(The children come up with several suggestions.)

Child 1: Scold him!

Child 2: Bronson, Bronson, gimme the money. (Implying that the girl should have asked for the money.)

Child 3: Then you tell Mrs. S (the teacher).

(Teacher goes on with this discussion and explanation of how Bronson's losing the money was accidental not deliberate. The child who began this discussion then speculates on how Bronson may have lost the money.)

Child 1: Um, um, Teacher, teacher, teacher. Maybe he went drop 'om when he was running.

Teacher: Probably.

Child 1: It stay outside.

Teacher: It's probably out there in the grass. Right.

Child 1: He mommy went drop him off, and then maybe he went play, and then maybe he went jump, and then, the dime went come out.—drop 'om.

The child's natural curiosity and interest in the actual event (the fight) led him to speculate about what happened. Probably, the informal nature of meal times and the freedom to initiate topics of personal interest led children to talk at length about an event. Children often engaged in conversations about events that had strong affective components, such as an impending visit to the doctor's office, fights, past parties, or picnics. They shared information that was new to the listener (e.g., when the child was relating personal experiences or explaining his thoughts, as in the example given above).

Comparisons of information conveyed to naive vs. informed listeners suggest that language to naive listeners is generally more lexically explicit than language to informed listeners (Pelligrini, 1984). When sharing information to a naive listener, the speaker cannot rely on shared assumptions. When children talk about or share new information, they are more likely to expand and clarify statements, and thus to learn how to structure descriptions in a cohesive and coherent manner.

IMPLICATIONS FOR PRESCHOOL ACTIVITIES

In this chapter, we have argued that oral language that resembles literate discourse is most likely to occur in situations where the child can take an active discourse role (i.e., has the autonomy to initiate exchanges and hold long speaking turns), and when the interaction is focused on information exchange. This assumption is based on the literature delineating differences between oral and written discourse that was discussed earlier in the chapter. We presented preliminary data from observations of children's language use in the preschool to demonstrate how discourse role and content vary as a function of the activity setting within which communication takes place. Further, we discussed features of the activity settings that probably influenced children's discourse role, conversational content, and linguistic complexity, illustrating our points with excerpts from children's conversations.

Our observations suggest that many typical preschool activity settings do not always provide opportunities for children to take an active discourse role and to engage in conversations that focus on information exchange. Of course, not all preschool activity settings are meant to or designed to facilitate language skills. Preschool activities need to serve many different functions (e.g., exposing children to new knowledge, facilitating socioemotional skills, adaptation to school routines).

However, even the activity settings specifically designed to facilitate literate oral expression do not always do so. A case in point are the discussion activities we observed. Clearly, from the teacher's perspective the primary purpose of these activities was to expose children to new concepts and information. The purpose, that is, the "why" of the activity setting (Tharp & Gallimore, 1988, p. 77), obviously influenced the other interlocked features of the activity setting, in particular how the activity was carried out. Teachers structured the activities so that they played the main discourse role, keeping tight rein on the interaction. This fit with the purpose of exposing children to new knowledge, and helping them learn new concepts and labels. Often teachers played a very effective part in assisting children to acquire new concepts, learn thinking skills, and learn to use more complex words and phrases. Nevertheless, discussion activities did not provide many opportunities for children to take an active discourse role and participate in conversations in which they exchange information that is new to the listener.

Mealtimes, and to some extent symbolic play and object/material focused activities elicited communication routines resembling literate discourse or connected discourse. However, in these situations children primarily talked with other peer. Adults, who can serve as more skilled conversational partners, participated in less than 40% of the children's communicative acts.

Much of the literature discussed throughout this chapter (e.g., Blank, 1978; Michaels & Cazden, 1986; Snow, 1983; Tough, 1977, 1982; Wells, 1985) provides descriptions of the type of language experiences that are considered important as preparation for later school literacy. A point often made is that when children enter school having had these language experiences they are more likely to encounter success as they have been prepared for the language of school. Our data on children's language experiences at home (see Martini & Mistry, this volume) also supports this notion. Children who were well prepared for school participated to a greater extent in activity settings in which they took a more active discourse role and engaged in more information exchange than did children who were less prepared for school.

For children who enter preschool without the kind of language experiences we have been discussing, it becomes even more important for the preschools to provide language experiences that foster the type of literate discourse that formal school requires. We need to provide activity settings which have been designed with the specific purpose of providing many opportunities for children to take an active discourse role. We need to provide more activity settings in which children can engage in extended conversations (preferably with adults) about information that is new to the listener, on topics that are of intrinsic interest to the children, and are about events, objects, and experiences removed in time and space. For it is through these conversational experiences that children acquire some of the features of the language of schooling that appear to be so critical for school success.

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Chapter 11

The Comprehension Reading Lesson as a Setting for Language Apprenticeship

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"Words play a central part not only in the development of thought but in the historical growth of consciousness. . . . A word is a microcosm of human consciousness" (Vygotsky, 1962, p. 153). With these few words, Vygotsky has captured the force of language in our intellectual and social development. Language is the major medium for teaching in school settings. The role language and language differences play in providing relevant schooling for children from poverty and nonmainstream language backgrounds has been debated for some time (e.g., Fishman, 1977; Harber & Bryen, 1976; Hall & Turner, 1974; Sommervill, 1975). In more recent years, quite varied and thoughtful treatments of the topic have been given (e.g., Boggs, 1985; Feagans & Farran, 1982; Heath, 1983; and for bilingualism, Cummins & Swain, 1986; Hakuta, 1986). This interest should not surprise us, given that the larger proportion of children on this earth receive their education in a language that is not the one spoken in their home (Tucker, 1982). An appropriate and effective instructional approach to the problem, however, is still in need of development.

In Hawaii, the fact that many children speak Hawaiian English has been sporadically a focus in developing more effective instructional approaches (Hawaii Department of Education, Office of the Superintendent, 1988; Petersen, Chuck, & Coladarci, 1969; Sato, 1985; Speidel, 1981, 1987a, b; Speidel, Tharp, & Kobayashi, 1985; Tharp & Gallimore, 1976a, b). Hawaiian English is a nonstandard form of English, called a creole by linguists (Day, 1972; Bickerton, & Odo, 1976-1977) and pidgin by the local population. Among children of Hawaiian ancestry, there are large differences in how well they understand standard American English—the language of school instruction—and in how fluently they speak it. Although speaking pidgin does not, itself, interfere with school learning (Gallimore & Tharp, 1976a), unfamiliarity with the standard

English used in school instruction and in textbooks affects the children's school success (Speidel, 1981). The analogy to learning to read in a foreign language makes this point clearer: the speaking of English does not interfere with learning to read in French, but not knowing French will hamper learning to read in French.

The school language issue includes not only dialect differences but also the fact that many children have less experience in using the explicit language required in the classroom: Hawaiian children are verbally skilled in everyday talk (Gallimore, Day, & Tharp, 1973; Gallimore & Tharp, 1976b; Speidel, 1981), but research (Speidel, Farran, & Jordan, 1989) and teacher experience suggest that the children's well-developed visual/spatial and problem-solving skills exceed their ability to talk about what they know in the explicit manner required in our schools.

The approach to the language issues described in this chapter is based on a currently popular view of word meaning development alluded to in the Vygotsky quote introducing this chapter: word meanings are viewed as reflections of society's ways of symbolizing reality, and the development of word meanings in the child is seen as a social convergence process in which the child's usage of terms gradually converges toward the adult pattern as the result of continuing social interactions with adults (e.g., Adams & Bullock, 1986; Bruner, 1975; Bullock, 1983; Millikan, 1984). Such a social conception of word meaning development has implications for language in the classroom. Not only are there differences in pronunciation, grammar, and vocabulary between the dialect and the standard language, but when and how language is used may vary from one social niche to the next within the same larger community.

Thus, for a fair number of Hawaiian children—those who do not come from a school-literacy orientation—communication and learning in the classroom may be difficult, not only because they speak a dialect, but also because they may not have used language for the kinds of activities occurring in the classroom. The educational language issue, therefore, becomes one of helping Hawaiian children from different social niches learn the language that is used for classroom activities and classroom topics.

The view that language development occurs within and through social interaction is allied with the notion of *guided reinvention* (Lock, 1980; Fischer & Bullock, 1984), a term that emphasizes both the child's reinventions as well as the parent's/adult's input in these reinventions. The implications for instruction are obvious: we cannot simply transmit adult knowledge of the language to the child. Rather, the child is an apprentice and gradually acquires the skills by participating in activities in which the skills are necessary.

At the former Center for Development of Early Education, researchers have begun to look for such apprenticing language activities in classroom settings. Early on we found that the traditional way of teaching language in the classroom by doing pattern drills or teaching grammar was unsuccessful, while using a more natural, conversational approach had positive results (Speidel, 1987a). This finding is consistent with the work with other minorities and children from poverty (Blank, Rose, & Berlin, 1978; Tough, 1977; see also Feagans & Farran, 1982) and with work on second language learning (e.g., Krashen & Terrell, 1983).

A conversational approach to language development was therefore incorporated into the primary grades' language arts program developed by the Center's interdisciplinary research team (Speidel, 1981, 1987b; Speidel, Herreshoff, & Dowhower, 1986; Tharp et al., 1984). The approach emphasizes comprehension of reading text through teacher-guided discussions of the readings. These conversation-like discussions between students and teachers resemble in important ways mother-child interactions that promote language learning (Speidel, 1987a) as well as Hawaiian talk-story interactions.

Below, prototype KEEP reading lessons will be analyzed along these three points, namely, (a) whether the lessons are a meaningful activity setting for language learning that is culturally appropriate for Hawaiian children; (b) whether the activity is within the children's zone of proximal language development; and (c) what forms of guidance are used to develop speaking. In the final pages are transcripts showing small changes in speech during the reading lessons—microgenesis.

The purpose of this chapter is twofold: (a) to describe the features we suspect are potent forces for language learning during the reading discussions, and (b) to provide a general framework for developing and assessing other kinds of language-learning activities within a school setting.

THE READING COMPREHENSION LESSON

Educational approaches, such as the one used in the KEEP reading lessons analyzed here, are not written in stone. They are alive and everchanging in the sense that they happen through the behaviors of a teacher and her idiosyncratic interpretations of the approach while working with a particular group of students. In other words, there will be much variation across teachers and students, and even from one lesson to the next with the same teacher and the same students.

Yet, if a teaching approach is to be usable by others, it must show regularities that capture its essential qualities. In order to attempt to describe such regularities for the learning opportunities and the forms of guidance for speaking, a set of prototypical KEEP reading lessons by a model teacher was selected for analysis. This teacher had taught first-grade reading according to the KEEP approach for three years and was considered a model teacher by her colleagues. Moreover, data had shown that she was effective in raising her students' language skills on measures of standardized tests (Speidel, 1987b).

The present analyses are based on the reading discussions between this teacher and a group of first graders who were the poorest readers in the class. The group consisted of four girls and two boys; the children had difficulty with standard English as assessed on standardized tests (Speidel, 1987b). The group was tape recorded at weekly intervals for most of one school year. Three such tape-recorded and transcribed discussions from the middle of the school year were chosen at random for this study.

Each of the three discussions had a different immediate goal. The goal of the first lesson was to help children develop cause and effect reasoning, the goal of the second one was to develop analogical reasoning, and the goal of the third to develop classification abilities. However, for each lesson the teacher had a further, overarching goal, which was to encourage clearer communication and fuller and more precise expression among the students within those three areas of reasoning. What task definition the students gave to the discussions can only be inferred from the topics and questions set by the teacher and from their verbalizations. Tharp and Gallimore (1989) write that the students view the discussions, such as the ones described here, as talk-story, a form of talk among Hawaiian adults described below. From the flow of the talk among teacher and students noted in the transcripts, this task definition seems appropriate, with the qualification that the students see it as communication around topics selected mainly by the teacher.

ARE THE INTERACTION PATTERNS IN THE READING LESSONS CULTURALLY APPROPRIATE AND CONDUCIVE TO LANGUAGE DEVELOPMENT?

Social interaction patterns are a significant part of learning. The interaction patterns set up in the classroom for learning should not be antagonistic to those in which the children have been accustomed to learn (Jordan, 1977). A brief description of observations from some Hawaiian homes will provide information as to whether the interactions during the reading discussions are culturally appropriate for Hawaiian children's language development.

Learning to Speak in Some Hawaiian Homes

It appears that learning to speak in some Hawaiian homes may be quite different from the language learning in middle-, upper middle-class settings with which we are so familiar from the many child language-learning studies (e.g., Cross, 1977; Dore, 1979; Howe, 1981; Moerk, 1983; Roth, 1987; Schachter, 1979; Shatz, 1982; Snow, 1977; Snow, Perlmann, & Nathan, 1987; Wells, 1980). One major difference, a difference that would appear to broadly affect the nature of learning to speak, is that many Hawaiian children do not spend much time in dyadic interactions with their mothers or other adults but are mainly together with older siblings and peers. Interactions between parent and child appear to be initiated and controlled in the main by the parent (Boggs, 1985).

The questioning routine is perhaps the one that is most different from middle-, upper middle-class American families. According to Boggs (1985), questioning is often used when a parent is about to punish in order to accuse a child of wrongdoing. In such a situation, the child is expected not to answer but to show deference. Boggs writes:

> Individual children's replies to direct questions during friendly conversations with me were . . . brief compared to their utterances when I was not questioning. . . . It is clear from evidence such as this that children are not accustomed to the use of questions by adults as an invitation to conversation. The absence of conversational questions in speech addressed to infants bears this out. (p. 71)

According to Boggs, this learning history is the reason why many Hawaiian children respond minimally to the typical evaluative questioning in classrooms whose purpose is solely to see whether the children know the information and not to engage the children in talk or promote discussion (Durkin, 1978–1979; Tharp & Gallimore, 1989). However, Boggs (1985) found that Hawaiian children's reluctance in answering questions can be altered if the adult gives cues of receptivity, if the questions are not directed at particular individuals, and if the questions are open-ended rather than evaluative. Such changes diminish the authoritarian nature of the questions and create an egalitarian setting. Speech routines of an egalitarian nature between Hawaiian parents and children occur during playful contradicting and verbal play. Verbal play includes name play, word play, and mimicry, obscenities, jingles, and sexual teasing, jokes, and riddles. It is used in situations where unequals are striving to be equal. In these routines, children are encouraged to speak up and practice their speaking skills.

Furthermore, Boggs reports that, although storytelling does not happen often among Hawaiian children, Watson-Gegeo was able to elicit some very long stories when she acted in a nonjudgmental manner and did not attempt to assign turns to children. Under such conditions, the children narrated in a talk-story fashion, common among Hawaiian adults. Talk-story interweaves many verbal-play routines to create a story. The story is not told by one individual; rather, everyone can propose, corroborate, and mediate. In other words, there is co-narration in which speakers alternate to develop the same story.

> Co-narration contrasts with two speakers attempting to tell competing stories or engaging in competing routines. It also contrasts with the structure of a lecture, where a single speaker moves from proposition to mediation to proposition without contributions from the audience. (Boggs, 1985, p. 108)

Two speech functions seem to occur infrequently in indigent Hawaiian homes. First, there is little child question asking and parent providing information or explanations in response to these questions. In tape-recorded observations, the parents responded only 20% of the time to children's questions and even less to questions for information (Boggs, 1985).

The second difference concerns the predominant use of language to direct children's problem solving. Giving students and their mothers a variety of tasks to do in an experimental setting, Jordan found that Hawaiian mothers tended to view the tasks as jobs that needed to get done and would quite frequently do the task jointly with their child or model how to do it (Jordan, 1977; Speidel et al., 1989). Language did not have a central role in this form of transmission of information. This contrasted with observations of American mainstream middle- upper middle-class mothers who tended to view the tasks as ways of teaching their children more general problem-solving skills and who mainly used language to guide their children to the solution.

This brief overview suggests that Hawaiian children's language development will be encouraged when their interaction with the teacher is more of an egalitarian nature, when the teacher does not address questions to specific children, when questions are open-ended, and when disputes and co-narration between children are allowed. On the other hand, situations in which the children feel "put on the spot" will discourage their talk and will probably not provide quality opportunities for language learning. The goal of language development should be to expand their understanding and their use of language for problem solving, describing, sequencing, predicting, and drawing conclusions on a large variety of topics.

Interaction Patterns During the Reading Lessons

The KEEP comprehension reading group typically consists of four to six students and their teacher; in the present case, it consisted of the six students described above. The composition and small size of the reading group is important for its success. It allows the adult to diffuse the authoritarian interaction. In a large group, an open and egalitarian form of interaction could easily produce severe behavior management problems. It would not permit the disputing and co-narration with peers described above.[1] Nevertheless, a small group setting does not insure a more egalitarian interaction. We will look in more detail at how our selected teacher created an appropriate interaction during the three reading discussions.

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[1] In a recent study on talk in kindergarten, it was found that the speaking opportunities for children, particularly for the lower skilled children, were greatly reduced in a large group setting.

Table 11.1. Frequency of Helping Strategies Used by the Teacher (In the first 150 utterances of each lesson)

	Lesson Transcript					
Helping Strategy	**Cause and Effect**		**Analogies**		**Classification**	
Modeling	32		41		35	
Feedback	70		40		45	
Questions						
Total	37		38		51	
Elicit		19		10		14
Explicit		17		23		37
Ling. Inf.		1		5		0
Cognitive Structure	1		10		2	
Direct Instruction	1		0		0	
Cloze	3		15		9	
Praise	0		5		2	

Table 11.1 shows the number of questions the teacher asked in the 150 utterances that were analyzed of her talk during each of the three lessons. She asked questions fairly often. However, her questions were not to evaluate or to discover whether the children had learned what they were supposed to. Rather, her questions were to stimulate discussion and problem solving as shown in the section on Questioning later in this chapter.

An analysis of the teacher's requests for participation (eliciting questions) showed that she usually invited all children to speak; only occasionally did she ask individual children to respond, and this was typically after children had given a signal that they wanted to talk, such as starting to talk or waving their hand (which was not required for speaking up).

A fair number of the teacher's requests for participation were not even phrased in a question manner but were presented as a problem to be solved by the group. For example, after asking and then discussing how piano and guitar were alike, she presented the next problem merely by saying, "A pizza and a hot dog," which resulted in responses by several children. Moreover, the teacher was highly responsive, even in her questioning. In a previous analysis of these lessons, we found that more than 80% of her utterances were in response to what the children said or did (Speidel, 1987a). When children came up with good ideas she had not thought of, she praised them for their ideas.

All of these features give the interactions during the reading lessons a conversational tone and the egalitarian character thought to be so important by Boggs for eliciting talk among Hawaiian children.

ARE THE READING LESSONS WITHIN THE ZONE OF PROXIMAL LANGUAGE DEVELOPMENT?

"The only good kind of instruction is that which marches ahead of development and leads it; it must be aimed not so much at the ripe as at the ripening functions" (Vygotsky, 1962, p. 104). The concept of the zone of proximal development implies that the discussions could be too difficult or too simple, in which case the language learning would be questionable.

Previous analysis of these children's discussions showed that nearly half of the words used by the children they had just heard before (Speidel, 1987b). The children used words and phrases of others to make longer utterances (Speidel & Herreshoff, 1989). Research on language development has revealed that children use much more imitation during early phases of language learning, and that their speech becomes more and more independent of immediately preceding speech (Anderson, 1983; Kucjaz, 1982; Moerk, 1977; Nelson, Baker, Denninger, Bonvillian, & Kaplan, 1985; Snow, 1983). The role imitation plays in language acquisition may be quite subtle and pervasive (Speidel & Nelson, 1989; Speidel, 1989). Thus, the frequent use of imitation among the present group of students suggests that the conversations were neither too easy nor too difficult.

A further index that the level of conversation was not too easy for the children is that, at times, the children experienced great difficulty in putting their thoughts into words. Although an actual count of hesitancies and disfluencies has not been done, the hesitancies are highly frequent and noticeable to anyone who listens to the tapes (see also the transcript in the Appendix).

From two other indicators, we can deduce that the discussions, on the whole, were not too difficult. First, the teacher was mainly responsive (on the average 80%, as shown above) to the students, incorporating into her utterances a fair amount of their words and building upon their ideas and utterances. Although responsiveness does not automatically guarantee that the students understand the teacher, the likelihood is greater. Second, the students responded to the teacher's requests and actively participated.

From these observations, it can be concluded that the level of spoken language in the reading lessons is indeed within the children's zone of proximal speaking development. The specific words, the concepts, and the grammatical forms learned will differ from one child to the next in such a flowing conversation and will depend upon each child's momentary attention and each child's zone of proximal development for specific aspects of the language.

WHAT FORMS OF GUIDANCE ARE USED?

The guidance given to help the children problem solve is a central aspect of the concept of zone of proximal development. Every act of guidance consists of two components: *what* information is given, and *how* the information is given. Below, we will look at how the guidance in speaking is given. We will discuss *how* linguistic input is given, not *what* linguistic input is given during the reading lesson discussions.

The framework used here was developed by Tharp and Gallimore (1989). They have described six "means of assistance": contingency management, feedback, modeling, instruction, cognitive structuring, and questioning. A seventh category, cloze, is included here. Cloze seems to be a useful form of assistance, not only in speaking, but also in nonverbal tasks in which the adult performs most of the task and lets the child complete it.

When looking at the means of assistance or guidance in language development, a shift in our accustomed focus of attention must occur. Typically, we look at adult speech to see how it guides the learning of a skill other than speaking. For example, "You are sitting nicely" is a praise to develop quiet sitting. "To get the answer, you have to take 4 away from 9" is an instruction for arithmetic problem solving. However, these two statements can also guide speaking development, in which case both utterances can be seen as linguistic models. On account of this dual guidance function of speech, a concerted effort must be made to distinguish the guidance for the development of language from the guidance given for nonverbal cognitive and motor skills.

This distinction is particularly important in regard to modeling. In nonverbal skill development, modeling is often an act in which the skill to be learned is demonstrated with some awareness. For the language learner, however, every bit of talk that is used to assist some form of behavior—whether it be praise, punishment, questions, instructions, or feedback—can, theoretically, also function as a linguistic model and as linguistic input.

We will now look at each of the seven forms of guidance to see (a) how each could encourage the development of language, and (b) how the teacher has used each form during the three selected reading lessons.

Contingency Management

> Contingency management is the means of assisting performance by which rewards and punishments are arranged to follow behavior, depending upon whether or not the behavior is desired. (Tharp & Gallimore, 1989, p. 51)

As a mode of assistance for learning to speak, contingency management consists of either praising, or in some other way acknowledging a child's utterance, or punishing it.

Praising a child's use of certain words may make it more likely that the particular word that was praised will be remembered and used in the future. Moreover, a child who is frequently praised for using certain words and grammatical constructions may also become generally more attentive to the words they hear and more motivated to use uncommon and more precise words.

An example of praise from the Analogies Session (*T* refers to the teacher, *C1* to one of six children):

T: Toothbrush case or a toothbrush . . . (waits for students to respond).
C1: Box.
T: Box? *That's a good one.*

This praise may help the child to remember the word better and may motivate him to attend more carefully to names of objects.

The teacher did not often praise words or sentence constructions used by the children. In the sampled part of the three lessons, she praised only seven times. Given that praising word usage and clearly stated messages may increase children's attention to the language they hear, one might perhaps have wished to see slightly more frequent praising. Too frequent praising, though, could make the students too conscious of their language and have a dampening effect on participation.

Scolding or punishing a child for language used does not appear to happen very often in the middle- upper middle-class families that have been studied by researchers. Parents do not often punish their child's word usage saying things like, "No, that's not the way to say it" (Brown & Hanlon, 1970). Similarly, in the present transcripts of the reading lessons, no instance of teacher punishment ("That's wrong," "You don't say it that way," "Don't say *ain't*) of the children's language was noted.

Instruction

Instruction is a form of guidance in which the learner is told what to do. According to Tharp and Gallimore (1989), instruction is used by teachers when they want children to behave and when they assign tasks. Instruction, when used to guide language development, consists of telling a child what to say. The usefulness of this form of assistance depends upon how it is used. If used to help children acquire social routines in context, such as "Say, bye, bye" when someone is leaving or "Say, please, give me another cookie," it can be effective. Instruction seems to be a rather common form of guidance among the Kwara'ae,' a Polynesian people, who frequently tell their children what to say in a conversation (Watson-Gegeo & Gegeo, 1986) and appears to be used also among some groups in the United States (Miller, 1982).

In the classroom, telling children what to say can be helpful when they are struggling with putting their thoughts into words and the teacher provides them with a sentence model. For example, in a lesson on learning to read a thermometer, a teacher gave her students the model, "The temperature is 65 degrees in the hallway and 75 degrees in the classroom." She then asked the students to tell their further observations of temperatures in different locations by using the readings on their thermometers.

However, when instruction is used as the predominant form of guidance in language drills and in pattern repetition as in some of the Peabody Language Development Lessons (e.g., Dunn, Horton, & Smith, 1968) or Bereiter and Engelmann's (1966) language program, it loses its effectiveness for developing communicative competence, unless the learners actively picture in their minds the thought they are trying to say. The following example shows the futility of this approach with youngsters. A teacher of sixth graders who were learning English as a second language wanted his students to learn to say the sentence "I light a match when I want to light a fire." The teacher asked his students to repeat this sentence and variations such as "My mother [father] lights a match when she [he] wants to light a candle [stove]." After 45 minutes of drill, none of the students had gotten the sentence pattern correct consistently. This failure to learn probably came about because there was no communicative intent underlying the students' verbalizations.

No pattern drills or pattern repetitions were observed in the three reading lessons of our model KEEP teacher. This is especially remarkable since in the lesson to develop analogical reasoning, the teacher clearly wanted the students to learn the sentence structure for making analogic comparisons: "A is to B as Y is to Z." However, she used means of guidance other than instruction, particularly cloze, to accomplish this.

In the three lessons, there was only a single instance of instruction. This occurred in the lesson on developing cause and effect reasoning. The teacher once said, "Try to use the word *because*." This had a temporary effect on the students' language; in the next three answers, the children used *because* in a syntactically correct way. This suggests that, when children are occasionally instructed to say something that is within their zone of proximal development, such instruction can help children practice a particular word or construction.

Cloze

In cloze, the adult provides the initial part of the structure and the child completes the sentence. "This is a ____?" "Please give me the ____." The language learner is guided in using a specific word or a specific sentence pattern by being provided with most of the linguistic context. Cloze can be used in the following ways:

1. To get children to use newly taught words. For example, in an earlier language experience lesson, the students and their teacher were making a peanut butter sandwich. The students were giving the teacher instructions on how to make the sandwich. They had told her to rub the peanut butter on the bread. The teacher answered, "Rub or spread. I spread the peanut butter on the bread." Later on, the students dictated the procedure to the teacher, and one child said:

C: Rub it.

T: Rub it or *I could say . . .*
All C: Spread (in unison).

2. To help children use a particular sentence pattern. For example, in the analogy lesson in which the teacher wanted the students to learn the sentence pattern for making analogical comparisons, "A goes to B as Y goes to Z," she provided the students with the following scaffolds:

T: *The holder goes to the toothbrush as the . . .*
C4: Cover go to the thermometer.
C5: As the . . . cover goes to the . . .
T: *cover goes . . . mometer.*

3. To elicit a particular label or to help remembering a word.

T: *It's called a . . . ther . . .* (target thermometer)
C4: Thermometer.

The teacher's use of cloze appeared to depend upon her lesson goals. For the analogy lesson and the classification lesson, she used cloze fairly often, 15 and 19 times, respectively. During the cause and effect lesson, she hardly used it at all.

Although cloze has its usefulness, it should probably be used sparingly and carefully; too much cloze will very quickly produce a stilted style of interaction. From the analysis of the transcripts, it seems that the teacher did not overuse it, as the students continued to participate at an eager level.

Questions

Questions addressed to children have a variety of functions in language development. First, asking questions has an important indirect effect on speaking development. Responding to questions, children have the opportunity to talk and to put their thoughts into words; that is, they get *practice* at communicating with words.

In the three lessons, the following pattern was noticed. The teacher frequently used a question to introduce a topic. The children then brainstormed to this opening question, and the teacher helped them in formulating their ideas or elaborated upon their contributions. She would change the topic by either asking a question or by making a statement which the children recognized as a new topic or a new problem for discussion. The reading lesson excerpt in the Appendix illustrates this pattern. The teacher set the topic by asking, "What kind of fish would scare a cat?" After the students had discussed this, she moved the discussion along by asking, "How could Sam get a fish like that?"

Follow-up questions that are in response to children's statements help children to speak more precisely or be more explicit or to elaborate. For example, preparing students for reading a story about a dentist, the teacher asked:

T: What does a dentist do?
C6: Fixing.
T: *How does he fix your teeth?*
C1: Put stuff in the mouth.
T: *What things does he put in your mouth?*

Some questions help children *use language to think through problems*. This function of questions is similar to Tharp and Gallimore's (1989) "assistance questions," whose purpose is to produce a mental operation that the pupil cannot or would not produce on his own. For example, in order to get the children to become aware of the analogy between toothpaste and teeth and soap and body, the teacher guided them to the solution by having them, through her questions, put into words the separate parts of the solution.

T: *What do you do with toothpaste on your teeth, and when you brush your teeth, what happens to them?*
C2: They come clean.
T: They become clean.
T: *Why do you use soap on your body?*
C2: For you can come clean.
C4: So you come clean.
C5: So you can-'
T: Clean.
C1: Cause you don't want to get dirty.
C2: You no get kaki'o.
C5: So you no stay dirty.
T: *So what do these two things do?*
C4: One is for your teeth and one is for your body.
T: They make them . . .
C2: Clean.
C5: That two things . . . clean.
It;, those two things clean you.
C6: Clean.

Using questions to prompt children to be more explicit or to help them solve a problem could become painful if the solution is too difficult and questions continue too long. Moreover, if it were a constant form of interaction, it might make the children hesitant to speak.

The teacher uses this form of questioning fairly frequently in the present three transcripts (see Table 11.1). Since the overall participation by the children was high, the frequency of these questions was probably appropriate. However, one might perhaps wish to pursue this issue with a more fine-grained analysis of the level of participation in response to such questioning sequences.

Finally, questions can be used to get children to say a specific word, to think about and define word meanings; in short, it can be used to assess consciously available linguistic information. For instance, what does *degree* mean? In order to answer, the child must remember things related to the word *degree* and must put this knowledge into the socially appropriate words and word order. This type of question was infrequently used by the teacher: once in the Cause and Effect lesson and five times in the Analogies lesson.

Cognitive Structuring

Cognitive structuring is described by Tharp and Gallimore (1989) as "providing explanatory and belief structures that organize and justify" (p. 63). They write:

> From the point of view of the teacher, various kinds of cognitive structures can be provided. They can be grand: world views, philosophies, ethical systems, scientific theories, and religious theologies. Or they can be as modest as giving a name to a thing. (p. 64)

The traditional teaching of language through grammar and vocabulary falls into this type of guidance. Dictionaries are the epitome of this form of cognitive structuring. As mentioned earlier, when grammar and vocabulary instruction are the predominant way of teaching language to little children, it is not effective. Even with adults exclusive use of this type of assistance is probably less effective than through the other forms of guidance given to the learner to express himself during meaningful communication (cf. Krashen & Terrell, 1983).

However, occasional brief cognitive structuring, used at a moment when the child's attention is focused appropriately, would seem to be a powerful way of developing word meaning (e.g., Adams & Bullock, 1986). Examples of different ways of providing such occasional "contextualized" cognitive structures for language development follow:

1. Pairing words with the relevant experience—Pointing to objects. For example, a group of second grade ESL students came across the word *delicate* in their reading. To help the children understand this concept, the teacher pointed to a lacy fabric saying, "This cloth is delicate," and then pulled at the jeans cloth on a child's jacket, saying, "This is not delicate." She then went on with the reading lesson.

2. Pairing words with the relevant experience—Actions and events. For instance, in this same ESL class, the students had trouble with the word *near* in the sentence, "The house is near the highway." The teacher first drew a house on the board and held a ribbon as the highway beside the house, saying the "highway is near the house." She then took the ribbon highway and put it into a far-away corner in the classroom, saying, "The highway is not near the house. It is far away from the house."

Subtle ways of pairing words with actions and events can be easily used to develop word meanings. In the next example, taken from the Analogies lesson of the present group of students, the teacher "taught" the concept *analogy* by taking the students step-by-step through two analogies and then saying:

T: So this is how it works, and *we call this an analogy.*

Working on a further analogy, the children came up with the following:

Children: The holder goes to the toothbrush as the cover goes to thermometer.
T: *You gave me an analogy.*

By labelling the activity they had just performed, the teacher gave the children first-hand experience with the concept *analogy*.

3. Providing a label for a child's concept—An example of this is seen in the following excerpt from the Analogy lesson:

C5: That's just like people when they die, they put . . . in there that kind.
C2: *In the coffin.*
T: You think this is what looks like a coffin that holds people? That's true. A coffin does hold people like this holds the toothbrush.

In this example, it is actually another child and not the teacher who provides the label for the first child's concept.

4. Pairing a new unfamiliar word with words that are familiar—The following is an example drawn again from the Analogy lesson:

T: What do we put in our mouth underneath our tongue?
C2: A temperature.
T: *No, that's what we find out. That's how we find out . . . how hot we are. Your temperature goes up; that means your body gets hot.*
Now, do you know what we put in our mouth to take our temperature?

In this example, the teacher gives the children information about the concept temperature, not through any concrete example, but through words alone.

All of the above examples of cognitive structuring are to teach word meanings. However, cognitive structuring in the context of conversation can also occur for grammatical forms or for sentence structures. For instance, a parent might say, "If there is more than one, we put an *s* on the end of the word." Or a teacher of Hawaiian-English students might say, "In English, we say *saw* for *wen see*."

In the KEEP reading lessons, the teacher used cognitive structuring to develop word meaning only once during the Cause and Effect lesson, twice during the Classification lesson, and 10 times during the Analogies lesson. The teacher never gave a grammatical/syntactical explanation during the 150 utterances analyzed from each transcript.

Linguistic Feedback

In responding to a child's message, an adult can provide helpful linguistic feedback (e.g., Nelson, 1977; Nelson, Heimann, Abuelhaija, & Wrobleski, 1989; Bohannon & Stanowicz, 1988, 1989). For instance, parents have been found to often repeat their child's message, recasting portions of it or elaborating on it (e.g., Nelson, Heimann, Abuelhaija, & Wrobleski, 1989; Speidel, 1987a; Bohannon & Stanowich, 1988, 1989; Moerk, 1983). These changes or additions in their original utterances show children how they may have worded their thoughts. This form of guidance is a rich source of linguistic information and is one of the most natural ways for developing speaking.

Linguistic feedback can occur during a variety of pragmatic functions, such as when confirming, when checking for comprehension, and when elaborating a child's answer. A few examples below will show how this could happen.

1. As confirmation of the child's message

The teacher holds up a sock and asks,
T: What's this called?
C1: A sock.
T: *It's a sock.*

The teacher's confirmation provides the child with the feedback that the word *sock* was correct. The addition of *it's* gives feedback about how to put the words into a sentence.

In the next example, the teacher confirms the use of the word *furniture*, giving the child feedback that he used a good category label. She had asked how table and chair were alike:

C2: You can sit on it and eat on it.
C3: They're furniture.
T: *Furniture!* Good, Lei. That's a big word you used.
C2: Table is a furniture?

In the following example, the teacher had asked how a boy's knee might have gotten hurt.

C6: Maybe have um . . . rocks, and then he ranned and felled on it.
C2: Probably wen trip.
T: *Maybe because he ran and fell down.*
He probably tripped.

The teacher's confirmation of the students' answers contains both positive feedback for the use of the words *ran, fell, trip, and probably*, as well as feedback on how to form the past tense in standard English and how to add the grammatical subject.

2. As part of a comprehension check. For example, the teacher had asked the students what may be some reasons why a plane crashed.

C2: Probably, probably have snow on the . . . stuff, and . . . thing, thing was heavy and thing fell.
T: Oh, you mean *there might be so much snow and ice on the plane that it couldn't fly.*

In trying to understand the child, the teacher provided feedback that *snow on the* was well formed. She also gave a label, *plane*, for his concept to which he referred to as *thing*, and *it couldn't fly* as an alternative to *thing fall*. Or, in the next example:

C5: Somebody wen bust her up.
T: Oh, *maybe because she was in a fight.*

In trying to clarify what the child was saying, the teacher provided an alternative way of saying *bust up* and feedback for the formation of the past tense of *to be*.

3. As part of an elaboration of a child's message

C2: Thing live in water.
T: *And Mileka gave us another reason why you could put these together. They live in the water. They're animals that live in the water.*

In her first sentence, the teacher provided feedback for how Mileka could have expanded his answer. In the second, she provided him not only with the information that *live in the water* was well formed, but also with the concept label, *animals*, and how the word *animals* can be used in a sentence.

This example also shows that one may inadvertently not always give the clearest feedback. For instance, by switching into the plural and using *they*, she did not give Mileka the feedback on how to cast his pidgin phrase, *thing live*, into standard English. Clearer would have been, "Yes, this animal lives in the water."

Linguistic feedback as described above was the most frequent and consistent form of guidance used by the teacher. The teacher used it 70, 40, and 45 times in each of the 150 utterances analyzed for each lesson.

Modeling

To reiterate, theoretically, all language may serve potentially as a model for how to put thoughts into words. In the present classification system, modeling is a default category into which the guidance provided by the adult or the peer is placed if it cannot be classified as question, feedback, cognitive structuring, cloze, praise, or punishment. This restricted definition of modeling, which allows a more refined categorization system, should have more resolving power and allow us to see how these different means of guidance function in language learning.

Two kinds of modeling are distinguished that represent the extreme ends of a continuum: decontextualized and contextualized models. *Decontextualized modeling* occurs during long sequences of uninterrupted talk, talk that has a lecturing quality, such as when a teacher explains a topic at some length. These extended language models are thought to do little for language development—particularly if they are not accompanied by nonverbal experiences, diagrams, or pictures. Children will probably not attend carefully to such extended talk because no response is requested of them and because such talk may not be within their zone of proximal development, as it is not in response to their thoughts and communications.

At the other end of the continuum are *contextualized language models*, which occur as an integral part of verbal interactions and activities between the learner and a more competent speaker. The utterances falling into this form of modeling occur in rather brief sequences and are produced within a meaningful context so that their meaning may be inferred.

In the three lessons studied, the teacher had no long sequences of uninterrupted talk. She did use short sequences of nonresponsive talk at the beginning of a lesson or when introducing a new topic during the lesson. For example:

T: Today, we're gonna do something very special. I brought a lot of things from home, and I'm going to ask you to figure out how some of these things go together.

Moreover, most of her language models were accompanied by actions, events, or objects, so that the meaning of her words, if not known to the students, could be inferred quite readily and thus provide useful input for language learning.

This form of "contextualized" modeling is at times difficult to distinguish from the cognitive structuring occurring in context described earlier. Contextualized modeling is a simple pairing of language and experience, while cognitive structuring is seen as more complex presentations of examples and contrasting examples. Contextualized models and contextual cognitive structures differ in the degree of attention that is given to the language aspect of the message. In modeling, no attention to the language component is apparent, at least to the observer, whereas in contextualized instruction this attention becomes noticeable. The following is an example of cognitive structuring in context because the mother assumes a didactic role:

Sarah: I can drink coffee.
Mother: *That's tea.*

While the next example is one of contextualized modeling:

Mother: *Here's your dragon* (hands Sarah the dragon).
Sarah: Dragon.

Here, the mother's mention of dragon draws no attention to the term, per se. Yet it is an ideal comment for language learning, because the child's attention is on the dragon figure (Whitehurst & DeBaryshe, 1989).

It may seem that distinguishing between the two forms of assistance is merely splitting hairs. However, even though this distinction between the two examples above is subtle, it is important; too many comments such as "that's tea" could dampen children's participation, while short sequences of modeling language in context would not seem to have this danger.

EVIDENCE FOR LANGUAGE LEARNING DURING THE READING LESSONS

The sections above showed that the conversations during the reading lessons were in the students' zone of proximal language development and that there were many instances in which the teacher helped the students to communicate in words and provided them with linguistic information. But what evidence is there that this guidance actually helped the students in developing their language skills? One source of evidence is that this particular group of students did show significant gains on standardized language measures compared to another group that was not instructed in this manner (Speidel, 1987b).

However, there is another perhaps more meaningful way to explore the effects of instruction—namely, to search for changes in the child's performance during the activity itself: microgenesis. Small observable changes in speaking during the lessons clearly occurred. Examples follow:

1. Microgenesis-vocabulary

In the example below, the children learned to use the new word *holder*:

T: When you . . . grab something in your hand, you say you are . . .
C2: Grabbing.

T:	Holding it.	
T:	So what would we-	(wanted to say "call this")
C2:	Holding toothbrush.	(children interrupt teacher)
C3:	Toothbrush hold.	
C6:	*Toothbrush holder.*	(synthesizes the correct word)
T:	Toothbrush holder.	(confirms)

A little later, one child is able to retrieve and use the word independently of the teacher's assistance:

C5:	That- tha- the-, the *holder* - keeps the, keeps the toothbrush safe.	(After struggling, remembers the new word.)

In another example, the children confused *thermometer* with *temperature*. With many hints from the teacher, the children came up with the word *thermometer*. The teacher then continued:

T:	It's a thermometer. Now tell me. This goes to this, the holder goes to the toothbrush as the...	
C4:	Cover goes to the *thermometer*.	(Uses the new word thermometer.)

About 2 minutes later:

T:	Sean said, this way... the thermometer doesn't get dirty and the toothbrush doesn't get dirty. Is that what you meant?	
C5:	No! That thing the-...*thermometer* don't get lost.	(struggles and remembers thermometer)

Sometimes the students learn words from each other, as in the next example. The teacher asked how table and chair are similar.

C2:	Cause you sit on it and you eat on it.	
C3:	You sit down. They're furniture.	(Provides label) with which the others are unfamiliar.)
T:	Furniture! Good, Lei, that's a big word you used.	(Praises good use of word.)
C2:	Table is a...*furniture?*	(Wonders about new word.

A few minutes later:

T:	What is a frog?	
C5:	An animal.	
C6:	Animal.	
T:	And what's a chair and table.	
C1:	Furniture!	
C3:	Furniture.	
C2:	*Furniture.*	(Remembers word)

2. Examples of Microgenesis—Grammatical Forms

In the example below, C4 uses *doesn't* incorrectly. When another child and the teacher provide corrective feedback, the child immediately uses the correct form:

T:	Can you think of another way we could put these together?	
C4:	We doesn't eat pencil and scissors.	(Overgeneralizes doesn't)
T:	Good for you, Jason, we don't eat pencils and scissors . . .	(Acknowledged response; models correct form)
C6:	Don't eat.	(Also models correct form)
T:	. . . and we usually don't eat turtles.	
C4:	*Don't eat* pencils and scissors.	(Uses correct form with original message)

3. Microgenesis—Building Sentences

In an analysis of how children imitated each other and the teacher, we found that they borrowed phrases of varied lengths from different speakers to build their own messages. For example:

T:	What's a guitar and a piano?	
C2:	For you make music.	
T:	So why does a rooster not fit there?	
C2:	Because it-	(Breaks off)
C1:	*Because* you don't . . . *you don't make music* with it.	(Borrows phrases from C2 and a phrase of his own)

This is a rather long sentence for C1 whose average MLU in these conversations is below 4. We have shown that such borrowing indeed helps children to make longer utterances (Speidel & Herreshoff, 1989).

These observations of change do not imply that a word or a grammatical form is fully learned. "Word meanings evolve. When a new word has been learned by the child, its development is barely starting" (Vygotsky, 1962, p. 83). A child who has difficulty using a particular word or syntactic structures may use it immediately after hearing someone use it, but may be unable to retrieve it without such assistance. But over time, we can expect such imitation to evolve gradually into spontaneous use and a wider meaning context (Speidel, 1989).

This description of momentary changes is only the beginning of the careful longitudinal work required (Adams, 1987) to show how the children's language develops through the kinds of guidance given by the teacher and through the help of peers. However, these microchanges do encourage the conclusion that the guidance given during the reading-activity setting is effective in helping children speak about school topics.

DISCUSSION

Children's language learning is a social phenomenon and occurs during activities in which language is a *medium* for accomplishing the activity. This view has implications for language development in educational settings: language learning occurs during activities that are not primarily focused on teaching language but have some other meaningful goal. This seems to be a rather trite conclusion, yet children who speak a language code different from the one used for classroom instruction are either given hours of language instruction or their need for guidance in understanding and communicating effectively on educational topics is ignored.

The present study shows *how* in a regular classroom activity setting—the comprehension reading lesson—Hawaiian children are apprenticed in explicit school-type talk. The *how* consists of several interwoven aspects all of which contribute to the language learning opportunities present during the activity: the *mode of interaction* and the *level and topic of talk* affect the amount and type of communication by the children, which in turn affects the *kinds of guidance* the teacher can give to the children. Thus, for Hawaiian children, a small group setting makes possible a nonauthoritarian interaction style in which they can talk-story and can contribute freely to each other's messages—an interaction style necessary to ensure their speaking. If conversations are either too easy or too difficult, the nature of the children's talk, the nature of the teacher's guidance, and the nature of the language learning opportunities will not be within their zone of proximal language development. A number of indicators showed that the children talked eagerly during the reading lessons and that the discussions were within the children's zone of proximal development for speaking; that is, the conditions allowed the teacher to provide assistance and guidance for language learning.

Rather than using concepts from the vast literature on adult input in child language acquisition—for instance, Whitehurst's observational learning framework (e.g., Whitehurst & DeBaryshe, 1989), Bohannon's information processing model (e.g., Bohannon & Stanowicz, 1989), Nelson's Rare Event Learning Mechanism (e.g., Nelson, 1987)—to study the forms of the teacher's assistance to guide language learning, Tharp and Gallimore's (1989) Neo-Vygotskian model of learning was adapted. This latter framework was selected, since it has a unified set of means of assistance within an apprenticeship learning model.

From the present preliminary study we cannot draw specific conclusions about when and how often certain forms of assistance should be used. Nevertheless, given the evidence for language learning described above and given findings from the research on first and second language learning some general guidelines can be derived. The most significant observation from the present analyses is that the teacher used no one form exclusively, but used at least four of the seven categories frequently and interwovenly. The varied way in which the teacher guided the student's communication efforts would seem to insure attention and interest in her words—a prerequisite for learning from them.

The use of varied forms of guidance is perhaps the most important aspect for an effective approach to language development. No one form would seem to be able to carry the burden for language development, and no one form would allow for all the necessary ways of practicing language for communication. This conclusion is reminiscent of Tharp and Gallimore's (1989) statement: "In assisting actual performances, the good teacher alternates the means; their combination is part of the activity of teaching" (p. 66).

Some further recommendations can be made. *Long sequences* of uninterrupted (a) linguistic modeling with little referential context present, (b) linguistic cognitive structuring (e.g., grammar and vocabulary teaching), and (c) instruction (e.g., pattern drill) are not helpful. However, the *occasional use* of these forms of guidance during activities in which language is the *medium* and not the *goal* of instruction appears to be appropriate and beneficial (Adams & Bullock, 1986). Praise for language use, questioning, and cloze should not be overused and must be carefully monitored, since their extensive use would seem to dampen the flow of conversation and participation by the children.

Contextualized modeling and linguistic feedback are probably the only forms of guidance that can be used extensively, because they are an intrinsic part of a variety of different communicative functions, such as informing, directing, acknowledging, confirming, checking understanding, paraphrasing, elaborating, and so on. It is no surprise that these two forms of guidance have been widely studied as forms of language input to the child. But even linguistic feedback can be overdone (see Cazden, 1965). For example, if every utterance in which children make an error is recast, children will become discouraged and bored. Moreover, Bohannon (Bohannon & Stanowicz, 1989) has shown how such corrective feedback is helpful only for certain kinds of child speech errors.

The examples of small changes in the children's speech during the discussions together with various outcomes on standardized language measures provide some evidence for the effectiveness of this activity setting and the teacher's guidance for language development among Hawaiian children. However, the study has applications for teaching students from other nonstandard language backgrounds: Students can be apprenticed in the unfamiliar school language in a variety of activity settings, such as arithmetic, art, and physical education, without the loss of valuable time to master the demands of the curriculum. The description of the reading lessons using such concepts as activity setting, including its participants, purposes, and interaction patterns, the forms of linguistic guidance used in the zone of proximal development, and microchanges in speaking will hopefully provide a useful framework for designing and assessing many different activity settings for learning the language required by schools.

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Chapter 12

The Family, the School, and the Interface

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The PREP Early Education Program began with the intention of developing a culturally competent educational system for Hawaiian children and their families. From the beginning of the development of PREP, the program's intention was to assist families with young children by creating educational opportunities consistent with their value systems. It was important to ensure that neither program staff nor families perceived the program's goals as ones that fixed something that was broken. As stated in the introduction, PREP differed significantly from its predecessor, KEEP, in this respect. KEEP's mandate was to demonstrate ways to fix a broken educational system at the elementary school level. PREP's task was to create proactive, culturally affirming, education opportunities for young Hawaiian children and their families. Given this mandate and the program philosophy, the deficit model for early intervention was explicitly rejected as a guiding force in program development and in research. Hence, this volume did not catalog the multiple problems young Hawaiian children face as they enter the educational system. More background on the specifics of these concerns can be found in other publications (Werner, Bierman, & French, 1971; Werner & Smith, 1977; Roberts, 1990; Heath & Plett, 1988; Kamehameha Schools, 1983).

The intent of the research reported in this volume has been to discover the naturally occurring patterns of interaction within Hawaiian homes that lead to learning and child self-regulation. A better understanding of these learning environments creates the opportunity for educational, health, and social services program developers to extend these natural patterns into early education programs. It is neither possible nor desirable to mirror all of the components of Hawaiian family interaction in the school setting. The business of school and the business of a family are different: they have different goals, and the means through which those goals are met are different as well. At a minimum, it is important that they do not work at cross purposes and that the school is able to build on that which the home environment provides.

Early education programs should not supplant the educational opportunities within homes. Instead, well-designed programs would assist Hawaiian families as they go about the business of nurturing their children within the rapidly changing ecocultural niche of the last decade of 20th-century Hawaii. Tharp and Gallimore (1988) have said it well:

> In every culture, natural teaching transmits skills of immense variety and power—a "curriculum" of far greater complexity than anything created in school. Such interactions awaken and arouse mind, communication, and expression and assist the instantiation of culture and society. (p. 20)

The organizing theoretical paradigm for much of the research and program development within PREP has been drawn from Vygotsky (1962, 1978) and others who have extended his broadly sketched theories into a more explicated theory of child development (Rogoff, 1990; Wertsch, 1985; Tharp & Gallimore, 1988).

Vygotsky argued that child development cannot be understood by studying the individual. Children develop within a social context, and it is this social interaction that is the nexus of development. It can be understood as the process that weaves the child into the fabric of society. Understanding this social fabric is not solely an intellectual exercise. Children learn through interactions within the social structure. Development in context builds upon the patterns of the weft and weave already in place.

Within neo-Vygotskian theory, a central mechanism for understanding development is the concept that learning takes place through assisted performance. Children learn through their interactions with more competent people in the settings in which they find themselves. Thus, as parents, aunties, older siblings, and family friends interact in the presence of the young child, he or she is learning the tasks of everyday life. As Wertsch (1984) and Rogoff and Wertsch (1984) have described, children are involved in a wide array of interactions around the commonplace tasks of living. Throughout, they are assisted in completing these tasks by others who are more competent.

Gradually, the child is expected to take on a more active role in the task until at some point he or she is able to accomplish it on his or her own. In this kind of informal everyday setting, it is rare that either language or cognition is the subject of direct instruction. Rather the use of language and problem-solving approaches are modeled for the child as the more competent person goes about the day.

Though participants in the interaction are unaware of the process, a gradual development of the self-regulatory skills of the child emerges over time. Vygotsky and others have traced this development from other-regulation to self-regulation as the very process of psychological development. Since this learning cannot take place outside of the cultural context of its participants, the culture itself defines the occasions, the actors, the material, and the methods through which development occurs.

Within a Vygotskian framework, the occasion in which a child is learning through assisted performance is called the *zone of proximal development.* Vygotsky (1978) defines such a situation as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 87).

Thus, it may be a very gradual process in which children learn to perform tasks independently. Again, the pacing and the expectation for how this is to occur is culturally defined, because the zones of proximal development are created within activity settings that are themselves culturally defined. This process suggests the stages of learning to internalize a psychological function. As Vygotsky (1978) has written:

> ... *an operation that initially represents an external activity is reconstructed and begins to occur internally.* Of particular importance to the development of higher mental processes is the transformation of sign-using activity, the history and characteristics of which are illustrated by the development of practical intelligence, voluntary attention and memory.... Every function in the child's cultural development appears twice: first on the social level, and later, on the individual level; first *between* people (*interpsychological*), and then *inside* the child (*intrapsychological*). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relations between human individuals. (pp. 56–57; emphasis in original)

It is this intersubjectivity which allows development to proceed and transmit knowledge through the social forms of interaction. Wertsch has suggested four levels of intersubjectivity as the child moves through the zone of proximal development and learning proceeds from the interpsychological to the intrapsychological plane. At the first level, the child and the more competent person do not share a common language for understanding the situation or common goals about the outcome. Neither may have defined either of these components of the learning situation. At the second level, the child understands the situation and may have some common language to describe it but does not yet have the goal of the adult in mind. At the third level, the child is beginning to incorporate some of the tasks at the intrapsychological level, and he or she can understand the goal of the more competent person. Though still other-regulated, the child both perceives the goal and has a common communication system with the more competent person. The child is able to complete larger blocks of the task independently. At the fourth level, the child takes on complete responsibility for completing the task and has transformed it to the intrapsychological plane of functioning (Wertsch, 1979).

For the purpose of this discussion, then, it is important to fully understand the culturally prescribed occasions in which this information is transmitted. The unit of analysis that best suits our needs to study the interaction process is the activity setting. Leont'ev and others have begun to explicate an activity theory of learning which suggests the nonstatic nature of this interaction. The notion of an activity focuses on socioculturally defined contexts in which human functioning occurs (Leont'ev, 1981).

> One of the most important characteristics of an activity is that it is not determined or even strongly circumscribed by the physical or perceptual context in which humans function. Rather, it is a sociocultural interpretation or creation that is imposed on the context by the participants(s). (Wertsch, 1985, p. 203)

Weisner, Gallimore, and Jordan (this volume) have provided a mechanism to describe the activity setting in functional terms which include: personnel available, cultural scripts for conduct, nature of tasks and activities in the daily routine, and cultural goals and motives of those present in the activity setting. Through this type of analysis of everyday life, the culturally prescribed occasions for learning can be discerned.

Learning is not necessarily a didactic event within activity settings. Many different types of interactions transmit information. The form this transmission takes is itself culturally prescribed, though this process is not invariant within a cultural group. Rather, a hierarchy of interactional styles may be preferred by a culture in transmitting types of information. Tharp and Gallimore (1988) suggest several means of assistance that include modeling, contingency management, feedback, direct instruction, questions, and cognitive structuring. Thus, if a child is learning number concepts, any of these methods of information exchange can be used to assist him or her. The choice depends upon the learning histories of the participants in the interaction which is in turn shaped by the cultural prescriptions.

This process of assistance has been called *scaffolding* by some (e.g., Rogoff, 1990), in which the more competent person in the interaction creates a structure that supports the activity of the less competent person. The requirement that it takes both players for the child to perform an activity at the early stages of learning creates the interpsychological component of development. This cooperative element in learning situations is described as follows:

> The adult emphasizes crucial actions, provides guidance at choice points and indicates important alternatives in the solution to the problem at hand. The child's state of understanding and contributions to the activity further tailor the interaction to the specific teaching situation. Information and skills are thus conveyed through the shared construction of the solution rather than through explicit freestanding directions on how to solve the problem. (Rogoff & Wertsch, 1984, pp. 33–34)

As children interact with others throughout the day, the goals of the interactions with others continue to be developed through the interplay of the participants (Saxe, Gearhart, & Guberman, 1984). Culture is not just an overlay in this process but a major predictor variable with respect to the occasions and the content involved in learning.

Moving from this general discussion to the specific example of the Hawaiian culture, authors within this volume have described some of the learning environments relevant to the early education experience of young Hawaiian children. Through this process, more of the everyday activity settings within their world are understood.

This next section will summarize some of the major themes of the research reported in this volume and then relate those findings to what happens in a regular preschool and how the particular model of education discussed here either honors or dishonors those concerns. Since the activity setting is the most appropriate unit of analysis, it provides a useful reference to describe the issues involved.

PERSONNEL PRESENT

As D'Amato and Inn (this volume) have suggested, Hawaiian families are enmeshed in several levels of social networks including: neighborhood, friendship, kinship, and household settings. This listing is generic and not specific to Hawaiian families. Differences across cultures emerge with respect to how families interact within these levels. One example of these differences is captured in the work of Farran, Mistry, Ai-Chang, and Herman (this volume). The size of the social networks of Hawaiian families is an important distinguishing characteristic. A very young child will have more contacts with others at each level of network within the Hawaiian family system than in many mainland comparison samples. Size is not the only distinguishing characteristic. The enmeshed nature of this network suggests that it takes a higher percentage of the family's time to maintain an extensive contact system.

The predominant features of the cultural stereotype of who is present in activity settings for young Hawaiian children include the following:

1. Hawaiian infants are likely to be cared for by a wide variety of caretakers including extended family members, parents, and older siblings. Hawaii has one of the highest rates in the nation of women in the work force with children below the ages of 5. As more Hawaiian mothers continue to enter the work force in larger numbers, this pattern of caretaking within the extended family network may have less relevance. If Hawaiian families avail themselves of formal caretaking systems established by the state and counties, arrangements within the families may become less prevalent.

2. Family boundaries may be less clearly delineated than in Western Caucasian family structures. This does not mean that the family does not know who is in it. Rather, it means that the more formal ties within a Hawaiian household may expand or contract depending upon the needs of the individual members at a given time. D'Amato and Inn, and Farran et al. (this volume) have documented the degree of flexibility that seems to be present with respect to these boundaries.

3. By the time young Hawaiian children are in the later preschool years, the intergenerational structure for interaction has been fairly well established. This means that children are likely to be learning rules about whom to go to for assistance and who one relies on in times of trouble.

The intergenerational structure also plays an important role with respect to who is available to the young child for teaching interactions. D'Amato and Inn suggest Hawaiian households are organized around intergenerational lines. Young children are more likely to associate with other young children and older children are more likely to associate with other older children. Weisner et al., however, found that the cultural stereotype is not predictive of the behavior of individual families. Factors such as ages of participants, and other demographic variables, have a major impact on the individual expression of cultural norms. Weisner et al. found that sibling caretaking was endorsed by parents as a preferred model of interaction, though it is not practiced as frequently as one would have predicted from an examination of parental beliefs. There exists great heterogeneity with respect to the members of the social network who may be available for interaction within potential learning situations.

If Hawaiian children spend much of their free time in a peer-oriented world, this suggests that activity settings will be in large measure child-driven. Children may either elect to observe parents engaging in more advanced tasks or may be trying out some activities with other peers when a more competent adult steps in to help or assist. It is less likely that the parent will establish the rules of interaction or the task that he or she wants to teach a young child. The activity settings are child not parent driven. As Weisner et al. have suggested, child-constructed contexts for learning are frequently observed. Thus, children become competent very early in initiating and managing these situations. Parents were not irrelevant but were less likely to be involved.

4. As suggested both by D'Amato and Inn, and Farran et al., both mothers and fathers may be available for learning situations with young children within their prescribed roles in the family structure. Women were more likely to be available for academic learning situations, while fathers were more likely to be available for social and sports-related activities.

CULTURAL SCRIPTS FOR CONDUCT

The model of childrearing suggested by the cultural stereotype provides socially constructed roles for parents, older and younger children, and other individuals within the social network of the target child. Parents view their roles with their children as ones in which they are to teach autonomy and peer organization fairly early. Parents do not *do for* their children but teach them to *do for themselves*.

At the same time, other components within the social structure press for individual responsibility to the group, not to oneself. As children develop this peer orientation, they are less likely to be supervised by the same adult within their everyday activities. Opportunities for them to observe and interact with a competent adult over time as they move through the zone of proximal development in learning a particular task are constricted. This includes everyday activities as well as those which are more likely to draw on language skills. Thus, children may not be involved in scaffolded language experiences with parents over extended periods. The diffuse social support network makes this even less likely, due to the number of participants involved and the time it takes to maintain such an extensive network. Children may have more adults and older children who can speak for them in getting their basic needs met. The cultural scripts for conduct are produced by several variables including peer orientation, parental roles that do not directly instruct, and the more diffuse social network. More complex tasks are not necessarily performed individually but in novel combinations of peers. Each peer participant knows how to do a part of the task, but everyone must take part in the interaction in order to complete it—the model paradigm for teaching cooperation.

This example is important to illustrate that teaching within the zone of proximal development need not be from the adult to the child. Though Vygotsky used the parent as the archetype for the model, it is clear that the model allows many individuals to fill the role of the more competent person in a teaching–learning interaction.

As children engage in increasingly more complex behavior, parents are less likely to set the stage for the interaction and to shape the child's performance through it. Rather, they would see their jobs as being one that teaches the child to work without adult supervision. The contingencies established by the parent are to work together with others. The feedback from adults is more likely to be concerned with commenting on the outcome or praising a group for working together. Feedback and specific contingent reinforcement is not a preferred parent–child interaction style. Since child caretaking is more of a diffuse responsibility and a number of individuals may take on that role during the day, any of the caretakers may take on the role of disciplinarian in this context.

Yet we also see clearly from several of the examples in this volume that there is much room for diversity within these scripts. As described by Weisner et al. the beliefs about how one should behave and the actual behaviors engaged in may be very different. Roberts and Barnes (this volume) found several interactional patterns within their studies. In the free-play situations, parents may appeared to have been behaviorally disengaged from their children but, in fact, were quite involved cognitively with them. The full range of distancing strategies was available to mothers across the socioeconomic continuum, though mothers whose children scored higher on cognitive measures were more likely to use higher level distancing strategies more often. Thus, differences in mothers' talk to their children were less a function of skills and more a function of preferred interactional style.

This heterogeneity of family patterns emerged in the work of Levin, Brenner, and McClellan (this volume) as well. The difference in the amount and types of literacy events found among households studied suggested to Levin et al. that it was not parsimonious to describe a Hawaiian pattern of literacy usage in the home. In fact, they found many examples of these scripts within homes spanning the full range of socioeconomic conditions. Young children were exposed to reading material and were somewhat familiar with text prior to entry into preschool. Again, the heterogeneity of children's experiences in this regard was very broad.

In some instances, exposure to early literacy events created conflict between the cultural script, which dictates that children initiate activity on their own and parents remain relatively aloof from the child activity—and the necessity for interaction around literacy material in order for a child to learn to read. Thus, children who had someone in the family setting who could spend time with the children were more likely to be preliterate than those who did not have such a person. Within the Hawaiian household, this could still be an older sister or brother or an auntie who might drop over for child caretaking responsibilities after school. The kinds of emergent literacy skills suggested by Mason (1980) and Teale and Sulzby (1986) are not universally available to children within this interactional style.

TASKS AND ACTIVITIES RELATED TO SCHOOL COMPETENCE

Patterns of interaction discussed above can be compared to those found by Martini and Mistry in homes of children who were less or more prepared for school experience. Using their performance on standardized tests as a measure, children who were well prepared for school in the Martini and Mistry sample were more able to:

- notice and label features of objects and events
- compare, categorize, and sequence items in terms of these features
- see, describe, and speculate about cause and effect relationships
- solve means-to-an-end problems

Children in the better prepared group were more likely to offer new information or ask for new information during social exchanges with other children and adults, as opposed to the less prepared children, who were more likely to tease, joke, or negotiate with other children and adults. Fantasy play became an important discriminator between the two groups. Less-prepared children tended to not engage in fantasy play. Since fantasy play was the occasion for some of the most complex speech, children in the better prepared group had more practice in being more explicit and conveying abstract, less concrete ideas to others. Better prepared children were also more likely to engage in school-related activities. Less-prepared children were more likely to engage in physical play that did not have a fantasy component and was less language based in its interaction. Though well-prepared children were less likely to engage with adults, they also did so in a different way. There was less teaching and more information exchange between the two generations with the better prepared children. A major difference between the well-prepared and less well-prepared children was that the first group was more likely to have older siblings. Older siblings involved younger children in talk story sessions and other kinds of conversational interactions from school-related activities to fantasy play. Thus, older siblings helped to scaffold language development of younger children in a way that parents were less likely to do. Since parents of well-prepared children were more likely to be receptive of child-initiated interactions, children were more likely to continue to seek real information from them rather than baiting them or getting their goat.

Children who were better prepared for school were involved in activity settings that provided the opportunity for them to use complex, abstract speech in conveying ideas or asking for information that would not be apparent from the immediate context of the interaction. Within the activity settings, these language behaviors were also modeled by more competent speakers, who could either be older siblings or adults. The opportunity for scaffolding or more complex language skills was also available to more competent children through these more competent speakers.

Heath, Levin, and Tibbetts (this volume) found a pattern consistent with this model in their Home-Learning Environment Profile. The more abstract the use of language reported by the parent, the higher the test scores of children in the school setting. Parents who also felt more responsible for teaching their children and who had higher expectations for their children's achievement had children with higher verbal scores.

The patterns listed here are highly consistent with those reported by Roberts and Barnes. Parents who engaged in higher level distancing strategies with their children were those whose children had higher cognitive scores and higher language scores. Higher distancing strategies involve the use of the same types of language components suggested by Martini and Mistry as important in being better prepared for school. These included the use of fantasy, means–end thinking, and discussion of objects and events distant in time and place from the present. As Martini and Mistry have suggested, these activities need not be a function of maternal–child interactions. Indeed, it may violate one of the cultural scripts suggested by D'Amato and Inn if this occurs very frequently.

Rather, it is important that it occur with a more competent language speaker with the child. In the case of Hawaiian children, it may be that the more competent person is an older sibling. D'Amato and Inn's, and Martini and Mistry's, work show how this can occur without a violation of the social contract and cultural rules of conduct.

GOALS AND VALUES

Given that preschool activities were to be offered to Hawaiian families across a wide socioeconomic spectrum, we have been asking the question whether there were transferrable components of the learning environments of young Hawaiian children in the home that could be transferred to the classroom or the more structured learning setting, whether it was in a classroom or in a play activity as part of a home visit or a traveling preschool operation in a park. In fact, there are.

Language was the primary concern, given the poor language scores upon entrance to kindergarten and the tie between literacy skills and oral language skills; therefore, the emphasis throughout these programs has been language development conducted in such a way as to not unduly disturb the social contracts within Hawaiian families.

Speidel has shown the ways that language and literacy skills can be taught in the kindergarten classroom while honoring and capitalizing on the learning strengths of Hawaiian children. Interactions between the more competent adult and children in the classroom settings allowed children to freely interact with one another around a constrained topic, but also provided a mechanism for the teacher to pull children along as a group in teaching the skills needed for reading a literate discourse. The individual variations among children were recognized, while children learned school language without disrupting their home language and interactional patterns.

Within the preschool program, the implications for instructions provided a fascinating set of possibilities. On the one hand, a standard preschool environment without a planned introduction of culturally competent teaching methods produced significant language increases in children with a 6-hour day over 9 months (Roberts & Heath, 1986; Meehan & Roberts, 1985). This does not imply that preschool classrooms can ignore the cultural components of education and still reap some educational gains for the children in the settings. Inclusion of culturally appropriate styles of interaction is an ethnical and an empirical issue.

As Mistry and Martini (this volume) have pointed out, opportunities within the preschool classroom must be found that will allow children to engage in extended discourse with one another, allowing them to initiate speaking turns over extended periods of time where the subject matter involves a real exchange of information. This kind of discourse is within the repertoires of Hawaiian mothers and Hawaiian children who are well prepared for school. Thus, it is not necessarily an alien concept for Hawaiian children. The educational question is whether this can be done without disrupting the patterns of interaction found outside the classroom.

The Weisner et al. example of sibling caretaking and peer-assisted learning provides a model for how to think about linkages between home and school. There was little similarity between the peer learning centers in the classroom and sibling caretaking at home within the families studied. They did, however, find other similarities that could serve as an explanation and a rationale for the success of peer-assisted learning. The important common variables between the two settings appeared to be the interactional flexibility present in both activity settings rather than sibling caretaking.

The same is true of the preschool. The flexibility of the classrooms, as they were originally set up, provided time for children to engage in both teacher directly supervised and unsupervised activities. Play centers that allowed for the types of interactions suggested as important by Martini and Mistry were integral parts of the preschool. Since this was one of several activity settings children found themselves in throughout the day, it would not be possible to tease out the independent effects of language development as a function of this particular component of the original classrooms. Over time, a number of activities were introduced into the classroom to increase the probability that more interactions providing for extended turn taking, group problem solving, and discussion of material could occur.

The development of the traveling preschool component of the program went through a similar process. Its intent was to provide an enriching educational environment for 2- and 3-year-old children and their primary caregivers several hours per week. In most cases children attended the traveling preschools with their mothers, though fathers, aunties, older siblings, and babysitters also came with some regularity. A program was installed and then examined for cultural relevance and integrity.

Given that there was only one teacher at each site, the success of the program was highly dependent on the active participation of those in attendance to make it work. As many as six learning centers were set up during each traveling preschool session. As a group, adults in attendance typically took responsibility for ensuring that the van was unloaded and that the materials were set up. The sense of shared responsibility and cooperative caretaking was evident in the way that the mechanics of the program operated. The next task of the teacher was to involve the adults and children in learning situations within the centers without violating the norms for adult-child interaction. The intention was to provide a wide variety of activities which pressed for language use and created learning environments.

As an activity setting, the scripts for conduct, the personnel present, tasks to be performed, and goals of the setting could not violate the patterns of interaction familiar to families. At the same time, children would be exposed to tasks that were unfamiliar to them and necessitated a more competent individual to participate with the child within the learning situation. In actual practice, the interaction between parents and children was allowed to evolve within the context of the tasks to be performed.

A description of how a finger-painting activity setting worked out one morning is instructive. Five or six children, ages 2 to 5 sat around and on two large lauhala mats, which contained all of the paper and painting materials. Three adults sat interspersed throughout the group of children. As the activity progressed, the children got involved with the materials, talking among themselves. The adults carried on a separate conversation while they watched their children play. The child-regulated conversation was mostly concerned with the how and what of the finger-painting activity. They shared materials and talked out loud about what they were drawing. The parents' conversation involved material unrelated to the preschool activity. It was apparent, however, that the adults were also aware of the children's behavior and would comment on the progress of the activity from time to time. One parent commented on the colors that her daughter was using, while another said, "Nice fish you draw, Keani." It was clear that the children, at quite a young age, could interact with one another, decide for themselves how they were going to become involved in the task, share a limited amount of resources, and enjoy themselves without major adult specific direction. At the same time, the presence of the adult may have kept the children on task and from wondering off to other activities. The parents were clearly engaged with their children from the short interchanges. Parents could see for themselves the skills of their children without becoming overly directive.

Another learning center within the traveling preschool that was frequently set up was the library corner. Here, more direct interaction between the parent and child was required. A number of books were available at several reading levels, from picture books with no words to more complex written-script story lines. An important component of this center was that particular adults were never required to work with a particular child. Parents who were comfortable with reading and who wished to read to children could do so. A parent may begin with his or her own child in this center and before long have three or four other children involved. The parents of the other children may either be involved with someone else's child in another learning center or involved in more casual conversation with others nearby. Though the task pulled strongly for more adult interaction, it could still be accomplished in a manner that did not violate individual adults' scripts for conduct. Usually on any morning, some adults who were interested in reading would be present, though this changed from day to day.

Both of these examples demonstrate ways within the traveling preschool that information about parent and child scripts for interaction and goals for settings were used to provide a comfortable and culturally appropriate activity setting for learning. There were always more competent peers or adults in each situation to allow for children to move through zones of proximal development concerning the tasks at hand. As children were more comfortable, they could take on more independent roles within the activity.

The home-visiting program described in more detail elsewhere (Roberts, 1988) utilized culturally prescribed patterns of interaction to work with Hawaiian families as well. Not only was information physically introduced in culturally significant ways through a quilt welcoming blanket for the child, but the verbal introduction of material to parents was within a "talk story" approach. Over the course of the development of this program, the home-visiting activity setting came to look more like a group of adults getting together to talk with a friend. Extended family members with children within the birth-to-3 age range were visited together. Again, as materials were presented, home visitors were encouraged to demonstrate with a child and then comment on the child's behavior. They did not teach didactically but within the ebb and flow of the conversation with the adults present. Parents loved to show off what their particular child could do so the home visitor could again comment, praise, and extend the behavior of the parent and child in a casual, nonmoralizing fashion.

THE UTILITY OF THIS APPROACH FOR EARLY EDUCATION

Each of the three components of the PREP program are being evaluated for their short-term impact on children's educational and developmental gains as a result of having participated in that component. Whether early education programs are necessary to ensure that children are ready for the school experience is as much a philosophical question as it is a developmental one. KEEP has demonstrated that one way of looking at the question is, "How does a society prepare its educational system to be ready to work with children who will enter the system at age five or six?" How must that school change to be an effective learning center for children who will attend it? Educational reform of this magnitude is a herculean task indeed. As a society we have been ineffective in creating the conditions which will change the educational environment for our children (Tharp & Gallimore, 1988; Keough, 1990).

This reality is accompanied by another reality. Both the educational system and parents are pressing for earlier and earlier educational opportunities for their children. This is no less true of Hawaiian families, whether they are urban or rural, middle, or low income. Anecdotal data to support this proposition include the waiting lists that were created for each opening in each component of the PREP program. Typically, there were three to four applicants for each opening. The traveling preschools were originally designed to handle 20 children at each site. It was not unusual to find 50 children at a typical site on the Waianae coast. Since it was open to all who came, all children and parents were served.

As parents seek these educational settings for their children, it is the responsibility of the professionals who design and implement the programs to do so in a culturally competent and developmentally appropriate way. The PREP program has begun this process with Hawaiian families. In so doing, we have learned much about the sensitivities of such an effort. Much has been learned about the context of conducting research in applied active settings with a cultural group who have not fared well with their Western contact. The application of the findings of these efforts to real program issues is also one that must be approached with at least as much sensitivity and caution as one approaches families. Teachers, early childhood educators, and home visitors have been subjected to other waves of investigations aimed at finding out what they are doing wrong. The intent of the research and the program development represented in this volume has been to follow the dictum of the Hawaiian saying, "*Nana ka maka; ho'olohe ka pepeiao; pa'a ka waha*" (Observe with the eyes; listen with the ears; shut the mouth. Thus, one learns).

It is through this process of watching and listening that we are able to collaborate with teachers, early educators, and families to create learning environments for young children that are developmentally appropriate because they encompass the cultural styles of interaction and learning as the central theme in their organization and practice.

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